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CIVIL AFFAIRS GUIDE

THE GERMAN MERCHANT MARINE

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WAR DEPARTMENT • 5 OCTOBER 1944

WAR DEPARTMENT,
WASHINGTON 25, D. C., 5 October 1944.

War Department Pamphlet No. 31–148 Civil Affairs Guide, The German Merchant Marine, has been prepared by the Research and Analysis Branch, Office of Strategic Services and is published for the information and Guidance of all concerned.

[A. G. 461 (5 Oct 44).]

BY ORDER OF THE SECRETARY OF WAR:

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PART I

SUMMARY

The proposed procedure for administering and operating the German merchant marine is based upon the assumptions that (1) there will be a shortage of shipping, the total tonnage left in German hands not being in excess of 6,000,000 GRT; (2) the seized tonnage will have to be restored; and (3) there will be a relatively greater shortage of small vessels. If these assumptions should prove incorrect, appropriate modifications can be made. It is generally agreed that some Allied agency should be given power to prevent a lay-up of the German merchant marine, such as occurred after the last war.

It is naturally impossible to estimate in advance exactly the overseas tonnage requirements for Germany, but it is presumed that these needs will be very small indeed. Consequently it is probable that the greater part of Germany's ocean-going shipping can be diverted to the United Nations pool. To facilitate such transfers, and only in the absence of personnel specifically charged with such duties, it would be well if Military Government, immediately on taking control of a port, should at least make a survey of such vessels as it finds there for report to appropriate authorities.

It is also suggested that Military Government be given close liaison with any agency in control of all German coastal shipping.

The right to control the operation of German merchant tonnage, without regard to the question of ownership can be derived either from the terms of the instrument of surrender or from customary international law. If Military Government is obliged for any reason to take action in regard to German shipping, its position should be that German shipping interests are to be under Military Government custodianship. The whole problem of ownership of German shipping presents complicated problems whose solution, however, will not fall to Military Government.

Administration of the German merchant marine will present the same problems as the administration of other German governmental agencies. Specifically, however, there would be no need for specially created committees and organizations which have been established for war purposes. All matters pertaining to ocean shipping should be administered in a central German administration, the personnel of which should be carefully checked to eliminate active Nazis.

Generally it will be difficult to operate the German merchant marine without German personnel. The use of German personnel will give rise to many problems, particularly in respect to security. Nevertheless, it is recommended that wherever possible existing personnel be retained, subject, of course, to thorough investigation and close supervision. Men prominent in shipping who were forced out by the Nazis could be very useful in replacing active members of the Nazi Party. But generally speaking, there will probably not be a shortage of personnel at either the administrative or the operating level. The present shortage is the result of the war, and with the return of men from the armed services and from war industries there will almost certainly be a surplus.

It is unlikely that German shipyards will be able to engage in large-scale construction of ocean-going vessels in the period immediately following the war. Military Government will be concerned with the maintenance of repair facilities, since these will be required not only for German vessels but for Allied vessels using German ports. Therefore, immediately following occupation, a survey of all German yards should be made with a view to determining their capacity and condition.

I. GENERAL CONSIDERATIONS

The suggestions and recommendations for the administration and operation of the German merchant marine made below are based upon the following assumptions:

A. That until the termination of the war with Japan, unfulfilled demands for shipping will exist; and that for this reason it is of importance that all German tonnage be put to immediate use without waiting for decision as to its final disposition.

B. That the total tonnage left in German hands at the conclusion of hostilities will not be in excess of 6,000,000 GRT.[1]

C. That since the Germans have seized at least 3,300,000 GRT and that since ton-for-ton restoration of this is likely to be required as soon as possible, the total German merchant marine is not likely to exceed 2,700,000 GRT.

D. That there will be a relative shortage of small vessels which are important for coastal trade.

If these assumptions should prove incorrect, and particularly if the size of the German merchant marine should be overestimated, appropriate modifications can be made.

In connection with assumption A, it should be pointed out that following the last war the German merchant marine lay idle from

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[1] For the size, functions, and administration of the German merchant marine before and during the war, and for its possible size after the war, see the Appendix to this study (R&A No. 1783.2).

November 1918 to April 1919. Since the ultimate disposition of the German merchant marine involves political considerations which will not be settled by those responsible for the operation of the German merchant marine, and since the ships of this merchant marine can be operated without waiting for this final disposition to be made (see III), it would be very desirable for some Allied agency to be given power to prevent such a lay-up from occurring again this time.

In view of the fact that merchant shipping under the control of the United Nations is already subject to controls set up on a regional basis, it is probable that German tonnage not needed for military purposes will be immediately brought within the orbit of those controls, and that Military Government will have little or no obligations in connection with its administration. Even so, it may be important that Military Government be advised of any proposed line of action so that it may assist, rather than impede, control of German tonnage.

II. POST-WAR SHIPPING REQUIREMENTS

A. Ocean Shipping.

1. Utilization of German tonnage for United Nations needs.—It is not possible to estimate in advance exactly the overseas tonnage requirements for Germany, but if these needs are predicated on supplying only minimum foodstuff requirements for Germany, they will be very small indeed.

Consequently it is probable that the greater part of Germany's ocean-going shipping can be diverted to the United Nations pool, where it can be used for supplying Europe as a whole or even for operations in the Far East.

To facilitate such transfers, however, it would be well if, immediately upon taking over control of a port, in the absence of personnel specifically charged with such duties, Military Government at least make a survey of such vessels as it finds there and report to the appropriate authorities their number, type, tonnage, and state of repair. In such circumstances, Military Government should also report any information regarding officers and crews locally available, and take possession of the vessels pending their transfer to the pool.

2. Utilization of German tonnage for German needs.—If, however, it should transpire that some tonnage is still required for Germany, it would seem highly advisable to use German tonnage whenever possible. It may be necessary to use German personnel to man German ships (see IV) and obviously their cooperation would be better, and hence the problem of their control much simplified, if they were aboard vessels operating into and out of Germany.

B. Coastal Shipping.

Even in normal times, coastal shipping in Germany fills a useful role in the shipment of bulk commodities such as grain, coal, petroleum, etc. It is linked closely with the extensive German inland waterway system.

If other transport—and particularly rail transport—should be disrupted following the war, coastal shipping could perform an important function not only in helping to meet Germany's own minimum transportation needs, but in supplying those of the occupying forces. Coastal traffic is too slow to handle priority goods, but it could be used, as it was before the war, for bulk commodities.

For this reason, it is suggested that the closest cooperation is advisable between the agencies charged with the responsibility for the operation of the other German transportation systems and the agency operating German coastal shipping and that, if Military Government is not authorized to take any part in the control of coastal shipping, it be given close liaison with the supervising agency.

The supervising agency should see to it that all such shipping is administered in the interests of the transport needs of Germany and of the occupying forces. There will be a general shortage of vessels suitable for coastal trade and for that reason—particularly if any of it remains in German ownership—there will be a constant and a natural tendency to operate solely for considerations of short-range or long-range profit.

III. ADMINISTRATION AND CONTROL

A. Basis of the Right to Control.

Without regard to the question of title or ownership, the United Nations would have the right to control the operation of the German merchant tonnage, derived either from the terms of the instrument of surrender or from customary international law.[2]

For the period during which the United Nations operate a combined control of most of the world's merchant tonnage and no voyage is undertaken without the approval of the United Nations shipping authorities, no great problem of control, if any, can arise because of the power position as to German merchant shipping, however derived.

B. Ownership of German Shipping.

As stated above, the ultimate decision as to the ownership and disposition of German merchant shipping is political in nature and will probably be implemented by agencies other than Military Government. However, it may be necessary for Military Government, in the absence of the personnel of those other agencies, to take action as to German shipping. In such circumstances only, Military Government will be obliged to act. It should then take the position that German shipping interests are to be brought under Military Government custodianship. Such a position would enable Military Government to take possession of the shipping interests in question and eventually to deliver them to the agency charged with their administration.

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[2] See the award of 13 October 1922 of the Permanent Court of Arbitration at The Hague, United States-Norway (1923 17 AM. J. I. L. 385).

In case of vessels found under German flag and registry, but alleged to have been transferred to such flag and registry by methods which the United Nations will not wish to honor, it is suggested that Military Government may find it expedient to rely upon flag and registry to establish its right to control such tonnage, and to leave the questions as to previous ownership for disposition by the agency primarily charged with the administration of German merchant tonnage.

C. Administration.

In general, administration of the German merchant marine will present the same problems as the administration of other German governmental agencies, and it is suggested, therefore, that reference be made to the Civil Affairs Guide on German Central Administration and Civil Service (R&A No. 1655.12).

Specifically, however, there would be no need for, nor advantage in, maintaining specially created committees and organizations such as the Main Committee for Shipbuilding (the Speer organization) and the Reich Commissariat for Ocean Shipping (the Kaufmann organization). These organizations were created for war purposes and their personnel is thoroughly indoctrinated with the Nazi point of view.

If there is a central German administration, it would be well to return administration of all matters pertaining to ocean shipping to the Ministry of Transport. It would also be well to dissolve the Reich Transport Group for Ocean Shipping with its subordinate trade groups. Its members should have the right to organize themselves freely. The whole personnel should be carefully checked in accordance with the principles outlined in the Civil Affairs Guide on German Central Administration and Civil Services, and members likely to represent the Nazi point of view should be removed. If there is a German administration, some sort of an Allied agency should be set up with powers to make policy and to supervise. If there is no central German administration, an Allied agency having the functions and powers of the Ministry of Transport should be set up.

At a minimum, Allied supervisory personnel should be placed in Department "S" (Ocean Transport) in the Ministry of Transport. A special effort should be made to include among this personnel those with shipping or shipbuilding experience.

At the beginning, it might also be advisable to assign personnel to local offices to ascertain the extent of war damage, to determine necessary repairs, and to supervise routine work. When and if necessary, Allied security police should be placed in sections of the port, yards, etc., where sabotage could disrupt traffic.

IV. THE USE OF GERMAN PERSONNEL

The fact must be faced that the difficulties of operating the German merchant marine will be greatly increased if German personnel is not used.

In 1935 a German merchant marine of 3,700,000 GRT was manned by 7,477 officers and 29,722 men, exclusive of shore personnel. On this basis, a merchant marine of 2,700,000 GRT would need approximately 5,400 officers and 21,500 men. Such a merchant marine would consist of at least 1,000 and possibly 2,000 ships. Hence, even the problem of assigning a small supervisory group to each vessel would call for considerable manpower.

Furthermore, German crews would be much more familiar with the operation of German vessels. When German vessels were turned over following the last war, for example, considerable time was spent merely in replacing signs and directions in German with English ones.

However, the use of German personnel will give rise to many problems, particularly in respect to security. Every member of the German government had to be a member of the Nazi Party. This would apply even to an old-line agency like the Ministry of Transport, many of whose employees were thoroughly imbued with the spirit of National Socialism. It would also apply to the officers and crews of the ships. On the other hand, it is also true that some officers and sailors and some members of these organizations were not Nazis by conviction, but were merely men of technical proficiency who joined the Party so as to retain their jobs.

The efficient operation of the German merchant marine would be greatly impaired if full use were not made of the services of men of the latter type.

For that reason it is recommended that wherever possible existing personnel be retained, subject, of course, to thorough investigation and close supervision. This policy should be adopted particularly in the case of employees in the lower levels and of the operating personnel of ships.

However, no matter what the circumstances and no matter how close the supervision, no individual should be employed who has been notorious as a formulator or executor of Nazi policies, nor should any such individual be retained no matter how great his familiarity with shipping nor how great his technical skill.

In this connection, it is also suggested that Military Government may find in German shipping circles men prominent in shipping who were forced by the Nazis to give up their positions and who were replaced by loyal members of the Nazi Party. If such men could be found, they might be very useful.

Last of all it should be pointed out that there will probably not be a shortage of personnel either on the administrative or the operating level. The present shortage is the result of the war and with the return of men from the armed services and from war industries there will almost certainly be a surplus, particularly in view of the reduced size of the merchant marine.

V. SHIPBUILDING AND REPAIR

It is unlikely that German shipyards will be able to engage in large-scale construction of ocean-going vessels in the period immediately after the war. Many yards have been converted to build U-boats, etc., while others have been damaged or destroyed. However, some yards still equipped to build merchant vessels will be found to have partially completed ships on the ways. The problem of whether these vessels should be completed is probably beyond the scope of Military Government, but Military Government should be prepared to assume control of these vessels if directed.

Military Government will, however, be concerned in the maintenance of repair facilities, since these will be required not only for German vessels but for Allied vessels using German ports.

It is suggested that immediately following occupation a survey of all German yards be made with a view to determining their capacity and condition. At least enough yards should be restored to operation to take care of all repair requirements of ships using German ports. If a general shipping shortage should develop, it might also be desirable to restore to service German vessels which have been laid up. Considerable tonnage would be involved since most German motor vessels and almost all large passenger liners have been laid up for a long time. Priorities for this kind of work should be established by the Allied authorities.

PART II

SUMMARY

A. The German Merchant Marine Before the War.

Sea-borne commerce played a very important part in Germany's economic life, particularly in the realm of foreign trade. For although total traffic into and out of German ports was relatively small compared to total traffic carried by her other transportation systems, over 32 percent of her foreign trade came into Germany by sea. If traffic brought in via non-German ports is included, more than 50 percent of Germany's foreign trade depended on ocean shipping.

To take care of this important business—and also for reasons of prestige—Germany rapidly rebuilt her merchant marine following its confiscation after the last war. By 1939 it was the fifth largest merchant marine in the world and consisted of 2,466 ships totalling 4,492,708 GRT. The ships were relatively new. Almost 20 percent were less than 5 years old; only 19.3 percent were over 20 years old. With an estimated annual capacity of 600,000 GRT, German shipbuilding was able to maintain and even expand such a merchant marine.

Before the war Germany had no difficulties in obtaining crews for her merchant marine. After 1935 the training and standards were standardized and closely supervised by the Nazi Party.

The Reich Ministry of Transport (*Reichsverkehrsministerium*) was the governmental agency responsible for control of the merchant marine. Closely related to the Ministry and cooperating with it in matters of commercial policy was the National Transport Group for Ocean Shipping (*Reichsverkehrsgruppe Seeschiffahrt*). This group was divided into nine trade groups, one of which was the Association of Shipowners (*Fachgruppe Reedorei*). This Association was the channel used by the government in all dealings with shipowners.

Though the word "subsidy" was almost always avoided, the German government aided the merchant marine to an estimated annual amount of $20,000,000 to $25,000,000. This aid was extended in the form of construction bounties, interest contributions, scrapping loans, operating loans, operating subsidies, subventions to compensate for exchange losses, etc.

The German merchant marine was largely privately owned. Before 1935 Hapag-Lloyd (North German Lloyd and Hamburg-America Line) operated as much as 70 percent of German shipping. During 1935 the Reich decreed a reorganization of German shipping which gave the individual companies a greater opportunity for independent action. At this time it bought considerable stock in the two big lines, but they still remained, at least, theoretically, private companies.

B. The Merchant Marine During the War.

With the war, the function of the German merchant marine changed considerably. All long-run foreign traffic was abandoned, except for the few ships which could run the blockade. On the other hand, coastal and short-run foreign traffic took on increased importance. The main war-time functions of the merchant marine were: (a) to supply certain critical German war needs; (b) to carry military supplies to German armies; (c) to carry on coastal trade, thus supplementing other heavily burdened transportation systems.

It is estimated that the German merchant marine now owns or controls at least 6,000,000 GRT of merchant shipping. However, mainly due to shortages in fuel, manpower, material, etc., considerable of this tonnage is laid up.

Little information is available regarding merchant ship construction before early 1941 but there was apparently little activity. A revival in German merchant shipbuilding began toward the second half of 1942. In the spring of 1943 the so-called "Nansa" program was initiated. It is a 3-year plan for the rapid construction of about 195 cargo ships. Orders were placed with German, Dutch, Danish, and Belgian yards. It was estimated that during the first 6 months of 1944 about 30,000 GRT would be commissioned in German yards alone. It is unlikely, however, that new construction was able to replace losses.

During the first 2 years of the war, the administration and organization of German shipping were relatively unchanged. In July 1942, however, a Reich Commissariat for Ocean Shipping (*Reichskommissariat für die Seeschiffahrt*) was set up. Karl Kaufman, appointed commissioner, was given virtually complete control over shipping. His organization has power not only in Germany, but in Norway and the Mediterranean. During May 1943 the responsibility for shipbuilding and repairs was vested in the Main Committee for Shipbuilding (*Hauptausschuss Schiffbau*) under the jurisdiction of the Reich Ministry of Armament and War Production. The net effect was a general improvement in Germany's shipping position.

C. The German Merchant Marine at the End of the War.

It can be reasonably assumed that the total tonnage in German hands when hostilities cease will not exceed the approximately 6,000,000 GRT they now hold. If ton-for-ton restoration should be required, the German merchant marine will have a maximum 2,700,000 GRT. This merchant marine will be unbalanced in its make-up, with a great shortage of smaller ships.

A. The German Merchant Marine Before the War.

1. Function of the German Merchant Marine.

a. Importance of Shipping to German Economic Life.—Seaborne commerce was of great importance to Germany before the war and, indeed, was relied on to bring into the country numerous important commodities which are essential to her peacetime standards of living. This was true despite the fact that shipping played a less important part in solving Germany's total transportation problems than it did in a peninsula like Italy or an island like Great Britain.

Figures for a series of normal peacetime years bear this out. Immediately preceding the war, for example, the total seaborne cargo carried into and out of German ports was less than half of that carried on her inland waterways and less than one-eighth that carried on her railroads.

But, averaging the figures for the years 1929 to 1936, 32.4 percent of her total foreign trade and approximately 43 percent of her imports were carried into or out of Germany on ocean-going vessels. The exact details are given in table 1.

Table 1. Average yearly movement of Germany's foreign trade from 1929 to 1936

[In millions of metric tons]

	Exports	Imports	Total	Percent
By railroad	19.34	12.60	31.94	27.9
By waterway	26.84	18.50	45.34	39.7
By ocean vessel	13.42	23.52	36.95	32.4
Total	59.60	54.62	114.23	100.0

In addition to this, many commodities reached Germany from overseas via non-German ports. In 1929, 1935, and 1937 (the only recent years for which figures are available) the average German imports and exports going through Dutch ports alone were 21,947,300 metric tons.

Thus approximately one-half of German foreign trade relied on shipping for some part of its voyage to or from Germany.

Moreover, the imports carried into Germany by sea were extremely important. Iron and manganese (4,475,957 metric tons),[3] wool, cotton, etc. (936,015), grains (877,751), fertilizers (592,538), and coffee

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[3] These figures are for 1930.

(231,713) either could not have been obtained at all or only in insufficient quantities except from overseas.

Germany's coastal traffic was of secondary importance, but even in normal times it supplemented other modes of transport.

b. National Sea Trade Carried on National Vessels.—As Germany began to rebuild her merchant marine following the last war, an increasing proportion of the sea-borne commerce into and out of German ports was carried aboard vessels flying the German flag. Cargo tonnage figures are not available, but a fairly accurate picture can be obtained by examining the net tonnage figures for vessels with cargo entering or clearing German ports, particularly if these figures are compared with those for other nations.

Net tonnage figures for entrances and clearances of vessels with cargo show that the following percentages of German sea trade were carried on national vessels:

Year:	*Approximate percentage*
1921	39
1925	48
1930	56
1936	65

It is estimated that in 1939 approximately 70 percent of German sea trade was carried on vessels flying the German flag.

For purposes of comparison it should be noted that in 1936 approximately 65 percent of Japanese, 58 percent of British, 58 percent of Norwegian, 57 percent of Italian, 34 percent of American, 28 percent of Dutch, and 26 percent of French sea trade were carried in national vessels.

In annex A, a chart shows the percentage of national trade carried in national vessels for all these countries from 1921–1937.

c. Distribution of German Shipping.

(1) *Foreign trade.*—Advertisements for berth sailings in 1939 account for only 1,714,000 tons of Germany's more than 4,000,000 shipping tons, but this tonnage was distributed as follows:

Service	Tonnage	Percent
Germany to the Western Hemisphere	762, 000	44. 3
Germany to the Near and Far East	668, 000	39. 0
Germany to Africa	116, 000	7. 0
Germany to the Mediterranean	68, 000	4. 0
Foreign to foreign (i. e., between non-German ports)	100, 000	5. 7
	1, 714, 000	100. 0

Not included in the tonnage analyzed are seasonal sailings with grain ships, colliers, tankers, whalers, tramp steamers, and cruise ships.

No information is available regarding the distribution of vessels of this type.

Annex B gives the principal German steamship services before the war with the name of the line, the destination, the number of steamers, the total GRT, and the type of service.

It should be pointed out that while most German services were operated for reasons of profit and competed successfully with other lines in the area, a few were operated at least in part for political reasons. This included lines serving places which had formerly been German colonies such as East Africa and certain of the islands in the South Pacific.

(*a*) *Trade with the Western Hemisphere.*—Lines running to the United States provided mainly fast passenger services to and from New York; combination passenger and freight services to United States North Atlantic ports, thence to Gulf ports for loading bulk commodities homebound; and fast refrigerator services principally carrying fresh fruits and vegetables from United States Pacific ports to Germany. Some of these services included stops at Canadian ports. There were important passenger services to Cuba, Mexico, and the east coast of South America. The nitrate trade with Chile was carried on by a regular line of freighters.

In 1936, exports to and from the Western Hemisphere were 8,069,828 metric tons,[4] or 47 percent of Germany's total long-haul trade. Within the area, the regional distribution was as follows:

Range	In-bound	Out-bound
United States-Canada	2, 061, 122	1, 277, 466
Central America-Mexico	1, 782, 821	268, 218
South America	1, 600, 994	1, 039, 197

Annexes C and D give the total sea-borne cargo in-bound and out-bound through German ports in 1936 and 1937, with a break-down by commodities and by points of origin and destination for 1936.

(*b*) *Near East and Far East trades.*—The more important services in the Near East and Far East trades were provided by freighters but there was one fast express service operated by North German Lloyd. It ran monthly to Japan and consisted of three modern and fast passenger vessels.

Imports from the Near East and Far East were nearly double the out-bound cargoes and together the freight moved amounted to 17 percent of the total long-haul trade. Trade with India amounted to over a million tons while trade with the Far East and Australia totalled nearly two million tons (see annexes C and D).

(*c*) *African trade.*—Services to Africa included direct sailings to

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[4] This includes cargo carried on non-German as well as German ships.

West Africa and return, sailings to East Africa via the Suez Canal, and sailings to East Africa via the Cape of Good Hope.

On the basis of cargo tonnage, in 1936, 8 percent of Germany's long-haul trade was with Africa, excluding North Africa. Most African imports came from West Africa. They included logs and timber, fresh fruits and vegetables, and oil seeds and oil fruits (cocoa).

(*d*) *Mediterranean trade.*—The main services to this area were furnished by the Atlas Levant Line which owned about 68,000 GRT of vessels. Other vessels traded as tramps during the grain season. A large tanker fleet handled petroleum products from Rumania.

The total movement of cargo between Germany and the Mediterranean exceeded four and a half million tons, or 28 percent of the long-haul trade. Petroleum products were among the more important imports, and over three-fourths of the exports were coal and coke.

(*e*) *Between Non-German Ports.*—Of 100,000 GRT of shipping which in 1939 plied between non-German ports exclusively, 95,000 tons was attracted by the heavy cargoes offered on the United States Atlantic and Gulf to Far East run (60,000 tons) and the United States Gulf to east coast of South America route (35,000 tons). Small feeder services operated from the Panama Canal to Ecuador while others served the South Sea islands from Hong Kong. Two passenger vessels also maintained regular service from the east coast of South America via Capetown to West Africa.

(2) *Coastal trade.*—It is not possible to determine total tonnage allocated to German coastal shipping, but it may be presumed to have been considerable. In 1937 tramp steamers operated in the coastal and short-run foreign trade had a total tonnage of 434,000 GRT. No other figures are available.

However, both coastal and short-run foreign trade were extremely important and traffic was heavy, particularly in bulk commodities. In 1936 the total cargo handled in the short-run foreign trade was 23,810,203 metric tons. It was distributed as follows:

Range	In-bound	Out-bound
Scandinavia-Baltic with arctic Russia	7, 690, 499	5, 591, 932
Great Britain	3, 908, 812	1, 095, 362
Holland-Spain	3, 241, 286	2, 282, 312

Coastal trade within Germany also consisted mainly of bulk commodities. Its port-to-port movement during 1936 is shown in annex E. It is normally in excess of 10,000,000 metric tons per year.

d. The Merchant Marine and Foreign Exchange.—In considering the German merchant marine in relation to the total national economy it should also be remembered that Germany acquired considerable foreign exchange because payments made to German steamship companies by foreign sources exceeded expenditures in foreign ports.

Details regarding the foreign exchange thus acquired are given in annex F. The years covered are 1926 through 1937.

The total net known income for the years involved was 4,466,000,000 RM. It varied from 193,000,000 RM. in 1933 to 545,000,000 RM. in 1929.

2. Structure of the German Merchant Marine.

a. Number of Ships and Total Tonnage.—In 1939 the German merchant marine consisted of 2,466 ships with a total tonnage of 4,492,708 gross registered tons. This figure includes 10,046 tons of sailing vessels and barges. Steamships made up 74 percent of the fleet and motorships nearly 26 percent.

At this time the German merchant marine was the fifth largest in the world. It was exceeded only by the merchant marines of Great Britain (21,215,261 GRT), the United States (12,003,028 GRT), Japan (5,629,845 GRT), and Norway (4,834,902 GRT).

b. Age, Size, and Type.

(1) *Age classes.*—In general, the German fleet was fairly new. The useful life of a ship is generally regarded as 20 years. It should be noted that in 1939 only 19.3 percent of German tonnage was more than 20 years old. It should also be noted that 19.9 percent was less than 5 years old.

A break-down by age classes follows:

Age	Ships	GRT	Percent
Under 5 years	481	892, 354	19. 9
5–10 years	216	235, 975	5. 3
10–15 years	351	1, 027, 197	22. 9
15–20 years	545	1, 459, 527	32. 6
20–25 years	185	233, 493	5. 2
Over 25 years	681	634, 116	14. 1

(2) *Tonnage classes.*—The German merchant marine was well provided with vessels of all sizes. The greatest tonnage was available in vessels between 2,000 and 8,000 tons. A majority of vessels of this size are useful ocean-going freighters.

A break-down by tonnage classes follows:

Size (GRT)	Ships	Tonnage
20,000 and over	11	322, 868
15,000–20,000	11	188, 265
10,000–15,000	22	272, 936
8,000–10,000	48	418, 465
6,000–8,000	126	883, 423
4,000–6,000	175	878, 505
2,000–4,000	230	655, 329
1,000–2,000	245	354, 104
500–1,000	275	211, 027
100–500	1, 318	297, 742

(3) *Type classes.*—A break-down by type of vessel is available only for ships of 2,000 gross registered tons or more. It is given in table 2–a; the figures are for 1 September 1939.

Table 2–a. German merchant marine, breakdown by vessel type

Type	No. of vessels	Gross tonnage	Deadweight tonnage
Combination passenger and freight vessels:[1]			
Passenger	7	223, 182	62, 300
Passenger cargo	43	556, 392	394, 000
Cargo passenger	61	392, 567	529, 700
Total	111	1, 172, 141	986, 000
Cargo vessels:			
General cargo	421	1, 970, 913	3, 075, 300
Refrigerated cargo	17	65, 296	63, 600
Bulk carriers	26	89, 631	140, 000
Total	464	2, 125, 840	3, 278, 900
Tankers (except whalers and whaling tankers)	27	179, 380	268, 300
Grand total	602	3, 477, 361	4, 533. 200

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[1] Passenger vessels are those whose deadweight is less than their gross. Passenger cargo are those whose deadweight is less than their gross but not less than one-half. Cargo passengers are those whose deadweight exceeds their gross.

A more detailed break-down of vessel types, but for the earlier year of 1938, is given in annex G.

3. New Construction, Maintenance, and Operation.

a. New Tonnage.

(1) *1919–1934.*—Before the war the provision of new tonnage constituted one of the largest problems of the German merchant marine.

Under the terms of the Armistice (11 November 1918) it was provided (a) that no ships could be destroyed before evacuation, surrender, or restoration, and (b) that no German shipping could be transferred to a neutral flag after the Armistice was signed.

Final disposition of the German merchant marine was made by the Treaty of Versailles, which required Germany to surrender all merchant vessels of more than 1,600 GRT, 50 percent of all German vessels of 1,000–1,600 GRT, and 25 percent of her fishing fleet.

In consequence, the total tonnage of the German merchant marine was reduced to only 672,671 GRT. In 1914 its total tonnage had been 5,239,000 GRT, and in 1919, even after heavy war losses, it had been 3,503,380 GRT.

In 1934, however, the merchant fleet had been restored to its 1919 level. This represented a net gain of nearly 3,000,000 tons, part of which was from new construction and part from purchases abroad.

Details as to the tonnage added in each of these categories are not available, but it is presumed that new construction supplied a considerable part. Between 1921–1933, 3,503,130 tons of shipping were built in German shipyards, and although some of this tonnage was for foreign account, much of it must have been added to the German merchant marine.

(2) *1934–1939.*—During the early 1930's losses through ships scrapped, lost, sold foreign, etc., more than offset gains through new construction, foreign purchases, etc., with a consequent net loss of tonnage to the German merchant marine. But from 1936 on, the fleet increased in size. The gain or loss in tonnage from 1934–1937 and the factors involved in this gain or loss are shown in table 2–b.

Table 2–b. Net gain or loss of German merchant marine, 1934–1937

[In 1,000 GRT]

Additions to the fleet	1934	1935	1936	1937
New construction	31.6	119.4	183.1	187.7
Foreign purchases	6.2	50.1	63.2	113.9
Other	20.6	4.7	8.9	4.8
Total	58.4	174.2	255.2	306.4
Withdrawals from the fleet				
Scrapped	25.0	50.7	2.0	2.1
Lost	23.1	4.1	27.2	22.7
Sold foreign	69.2	142.4	37.3	20.5
Other	12.2	8.9	6.6	16.0
Total	129.5	206.1	73.1	61.3
Net change	−71.1	−31.9	+182.1	+245.1

At any rate from 1937 on, new construction for the German merchant marine was somewhat above the world average for new construction.

In 1937, for example, the tonnage of new ships built throughout the world was approximately 4 percent of the total existing tonnage. New tonnage built for the German merchant marine was approximately 4.7 percent of its existing total tonnage.

But it should be pointed out that the 187,700 tons of new ships acquired by the German merchant marine in that year was still somewhat below the approximately 200,000 tons needed to maintain its average age. With a ship's useful age set at 20 years, it is usually necessary to provide 5 percent of new tonnage annually against obsolesence.

The rate of delivery from German shipyards in 1937 would have been ample for this purpose if it had not been that considerable tonnage was built for foreign account. At the end of 1937 German shipyards had on their books orders of 1,141,000 tons. Deliveries of ocean-going vessels in that year amounted to 390,000 tons, of which 56 percent went to foreign owners. German shipyards also produced 55,063 tons of river craft.

New construction turned out by the shipyards in Germany in 1937 is shown in table 3. It is classified by type of vessel.

Table 3. German shipyards, new tonnage in 1937

	Total tonnage	German account	Foreign account
Seagoing vessels:			
Motor vessels	280, 059	75, 386	214, 673
Steamships	102, 479	100, 330	2, 149
Other	7, 853	6, 483	1, 370
Total	390, 391	181, 199	218, 192
River craft:			
Motor craft	27, 579	27, 579	
Steam craft	7, 580	2, 901	4, 679
Other	19, 904	16, 283	3, 621
Total	55, 063	46, 763	8, 300

Further details regarding German shipbuilding in 1929—the last predepression year—and in 1937 are given in annex H.

The latest available pre-war figures indicate that on 30 June 1939, 137 cargo vessels with a total tonnage of 401,000 GRT and 9 tankers with a total tonnage of 79,000 GRT were under construction in North Sea and Baltic yards. Of these vessels, 60 percent were for foreign account.

It is estimated that the total annual capacity of the German shipbuilding industry is about 600,000 GRT if there is no naval building and if Danzig is included. In 1922, a record year, 525,828 GRT were launched.

The shipbuilding industry is further discussed in B, 3, a, i, below. In annex S, which forms a supplement to that section, a list is given of the principal German shipyards at the present time. Since no new important shipyards are known to have been built since the beginning of the war, this gives a fair indication of the situation in regard to shipyards before the war.

b. Repair Facilities.—Repair work was done largely by the same shipyards which engaged in construction work. In peacetime from 20 to 30 percent of all shipyard employees were almost constantly engaged in repair work, including overhauling, painting, bottom cleaning, etc.

c. Fuel.—Bunkering practices by German ships differed according to the type of vessel and the distance traveled. Because Germany had ample supplies of coal, coal-burning vessels usually bunkered for the round trip on short runs where the turn-around time was less than 30 days. On the other hand, bunker oil was largely imported and oil burners refueled in foreign ports as far as possible.

Figures regarding total coal and oil consumption of the German merchant marine are not available, but 405,690 metric tons of bunker oil were imported in 1938.

The German tanker fleet consisted of 37 vessels, totaling 256,093 GRT.

d. Manpower.

(1) *Personnel.*—Reliable figures as to employment in the German merchant marine are not available for any date later than 1935. At that time the German shipping industry is estimated to have employed approximately 280,000 persons directly or indirectly. Of these, 37,199 were employed on seagoing vessels. The rest were employed in transshipment, port establishments, forwarding agencies, steamship companies, etc.

A break-down of the employment on merchant ships on 1 July 1935 is given in table 4.

Table 4. Employment on merchant ships, 1935

Personnel	Steamships	Motorships	Sailing vessel [1]	Other sailing vessels	Total
Officer:					
Deck	3, 093	512	21	10	3, 636
Engine room	2, 614	614	------	6	3, 234
Steward's department	396	207	4		607
Total	6, 103	1, 333	25	16	7, 477
Subordinate ratings:					
Deck	7, 636	1, 534	42	53	9, 265
Engine room	7, 637	1, 196		6	8, 839
Steward's department	9, 265	2, 325	21	7	11, 618
Total	24, 538	5, 055	63	66	29, 722
Grand total	30, 641	6, 388	88	82	37, 199

[1] Sailing vessels with auxiliary motors.

(2) *Source of supply.*—All seamen, whether engaged in ocean or in inland waterway shipping, were members of the Seaman's Association (*See-Berufsgenessenschaft*). An analysis of its membership, therefore, gives some indication of the sources of supply for shipping personnel.

In July 1935 this association had 46,382 members. Of these, 44,072 were Germans, 2,472 were from foreign countries, and 288 were of unknown origin. Of the German membership, 32,994 came from cities, districts, or states along the coastline and 11,078 from cities or states in the interior. In proportion to population, Bremen was the greatest supplier of seamen with 676.6 seamen per 100,000 inhabitants. Württemberg, at the other end of the scale, supplied 6.5 seamen per 100,000 inhabitants. Further information regarding the supply of seamen and attendance in schools for seamenship are given in annex I.

(3) *Training and standards.*—Before 1936 prospective seamen for the German merchant marine signed on voluntarily and learned their trade on shipboard. Those, however, who wished to be trained as engineers or deck officers could enter one of the trade schools maintained by the states (*Länder*). They had to pay their own tuition.

There were schools at Altona, Bremen, Elsfleth, Flensburg, Hamburg, Itamburg, Leer i. Ostfriesenland, Lübeck, Stettin, Wesermünde and Wustrow i. Mecklenburg.

To each school were attached deputies for the marine trade schools (*Reichsbeauftragter für das seemännische Fachschulwesen*). These deputies were under the jurisdiction of the Minister of Transport and represented the Reich in matters pertaining to the training of seamen. The Reich assumed the responsibility of examining graduates of the schools, to some extent prescribed the curriculum, and set up uniform standards.

During 1937 and 1938 the Reich Transport Group for Ocean Shipping planned a reorganization of the training and selection of seamen. It is not known how much of this program was interrupted by the war, but it is believed that the larger part of it was put into effect.

Under the reorganized system, the prospective seamen first filed an application with the Central Office for Preparatory and Vocational Training for Ocean Shipping (*Zentralstelle für Vorausbildung und Berufslehre in der Seeschiffahrt*) in Hamburg-Altona. He then went before an examining commission composed of members of the German Labor Front (*Deutsche Arbeitsfront—DAF*), Hitler Youth (*Hitler Jugend*), Reich Transport Group for Ocean Shipping (*Reichsverkehrsgruppe Seesahiffahrt*), and the Seaman's Association (*See-Berufsgenessenschaft*). Selection and allocation to the appropriate branch were made by this commission. Apprenticeship began with a 4 weeks' course at beginners' school for seamen (*Seevorschule*). These schools were in Bremen, Hamburg, and Stettin. Following this course the student was given a contract (*Lehrvertrag*) and went to sea for a 3-year apprentice period. He then was made a seaman, lower grade (*Leichtmatrose*). To become a seaman (*Vollmatrose*) he then went to a Reich school (*Seeberufsschule*) for 6 weeks. Quarters and subsistence were supplied by the Reich. After passing the prescribed examinations, he received his new grade.

Any seaman who had reached the age of 21 and had followed his apprenticeship with 2 years' experience at sea, was eligible for one of the officers candidate schools (*Offiziersanwärterschule*) run by the

Reich. After at least three semesters he could take an examination and if he passed he received an A–5 certificate qualifying him as mate on ocean-going voyages (*Steuermann auf grosser Fahrt*).

After at least 1 year at sea he could again go to a State school for 20 weeks. If he passed the prescribed examinations he received an A–6 certificate qualifying him as a captain on an ocean-going voyage (*Kapitän auf grosser Fahrt*).

If the apprentice worked for a small company with only one boat, he was required to change to another company every year. The time he spent at various schools was credited to his time as an apprentice. During the time he spent at sea studying to become a seaman lower grade, or a seaman, the Division of Energy, Traffic, and Administration (*Fachamt, Energie, Verkehr, Verwaltung*) of the German Labor Front (*Abteilung Berufserziehung Seeschiffahrt*) provided all the necessary material for his higher education.

(4) *Rank.*—The following ranks were set up by the Reich Transport Group for Ocean Shipping in cooperation with the Navy and the German Labor Front:

United States Rank	*German Rank*
Master	Kapitan.
Chief Officer	1ter Offizier.
2d Officer	2ter Offizier.
Chief Engineer	Loitender Ingenieur (1ter Ing.).
2d, 3d, 4th Engineer	2ter, 3ter, 4ter, Ingenieur.
Engineer Assistant (Junior Engineer)	Ingenieur Assistant Funkoffizier.
Radio Officer	1ter Funkoffizier.
2d Radio Officer	2ter Funkoffizier.
Purser	Zahlmeister.
Chief Electrician	1ter Elektriker.
2d Electrician	2ter Elektriker.
Boatswain	Bootsmann.
Seaman	Matrose.
Seaman Lower Grade	Leichtmatrose.
Trimmer	Reiniger.
Engineer Attendant	Maschinenanwarter.
Chief Steward	1ter Steward.
Messroom Steward	Messesteward.
Carpenter	Zimmerman.
Cook	Koch.
Cook's Mate	Kochsmaat.
Storekeeper	Lagerhalter.
Oiler	Schmierer.
Boy	Junge.
Cabin Boy	Schiffsjunge.
Fireman	Feuermann.

(5) *Wages.*—Pay rates for all personnel except wireless operators employed aboard ocean-going vessels of more than 100 GRT were fixed by the Collective Regulation of December 1934. Under its provisions, wages were set by the government after conference with rep-

resentatives of the owners and labor. The minimum pay for captains ranged from 400 to 550 RM. per month according to the type of vessel. The pay of other officers ranged from 130 to 450 RM. per month. The pay for deck and engineer hands ranged from 25 RM. for a boy to 124 RM. for a first boatswain or a first carpenter. In the steward's department, pay ranged from 25 to 124 RM. per month aboard freighters, and from 113 to 430 RM. per month in the passenger service. In all cases, subsistence was provided. Details regarding pay rates in the German merchant marine are given in annex J.

4. Organization.

a. The Government and Merchant Shipping.

(1) *Administration and Control.*

(*a*) *The Ministry of Transport.*—The merchant marine was under the jurisdiction of the Reich Ministry of Transport (*Reichsverkehrsministerium*). In 1939 this Ministry consisted of two main categories of departments (*Abteilungen*): (a) the Railroad Department and (b) the Departments of Ocean Transport, Motor Transport, Inland Shipping and Waterways, known as S-K-B-W (*Seeschiffahrt, Kraftverkehr, Binnenschiffahrt, Wasserstrassen*).

For purposes of organization, however, the railroad Department was headed by a Secretary of State, who was also in charge of administration and inland waterways and shipping, while ocean transport and motor transport are each under the direction of an Under-Secretary of State (see chart 1).

Special authorities, advisory councils, etc., were under the supervision of a Bureau Director (*Bürodirektor*).

Within the Ministry two divisions were concerned with shipping: (a) the Division of Hydraulic Engineering (*Wasserbau-Technische Abteilung*), and (b) the Division of Shipping (*Schiffahrtsabteilung*).

The Division of Hydraulic Engineering was in charge of dredging channels and constructing works used by or required for the safety of seagoing vessels. It also built and maintained lighthouses and lightships and set out buoys. The Division of Shipping was the central administrative agency for shipping. It controlled personnel and had great influence in determining the general policies of ocean shipping, particularly as related to the economy of the country.

Attached to the Ministry of Transport were also the following special commissions or boards (*Behörden*) (see chart 2):

1. *Kiel Canal Office* (*Reichskanalamt in Kiel*).—This office was in Kiel. It operated and administered the Kaiser Wilhelm ship canal. Subordinate to it were the Water Transport Offices in Kiel-Holtenau and the harbor captains (*Hafenkapitän*) at Brunsbüttelskoog and other canal cities.

Chart 1—ADMINISTRATION OF OCEAN TRANSPORT IN THE REICH MINISTRY OF TRANSPORT, 1939

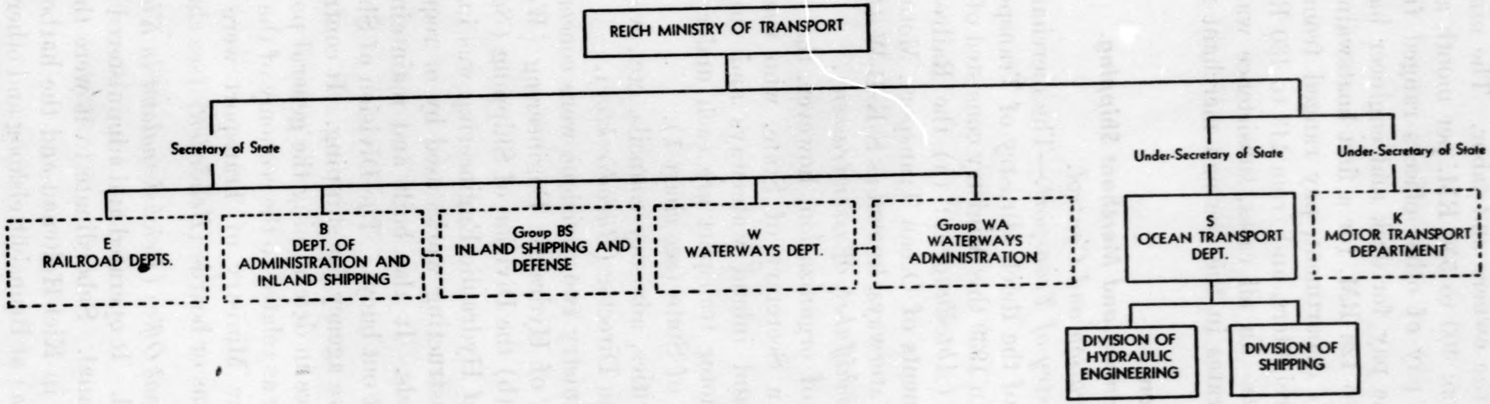
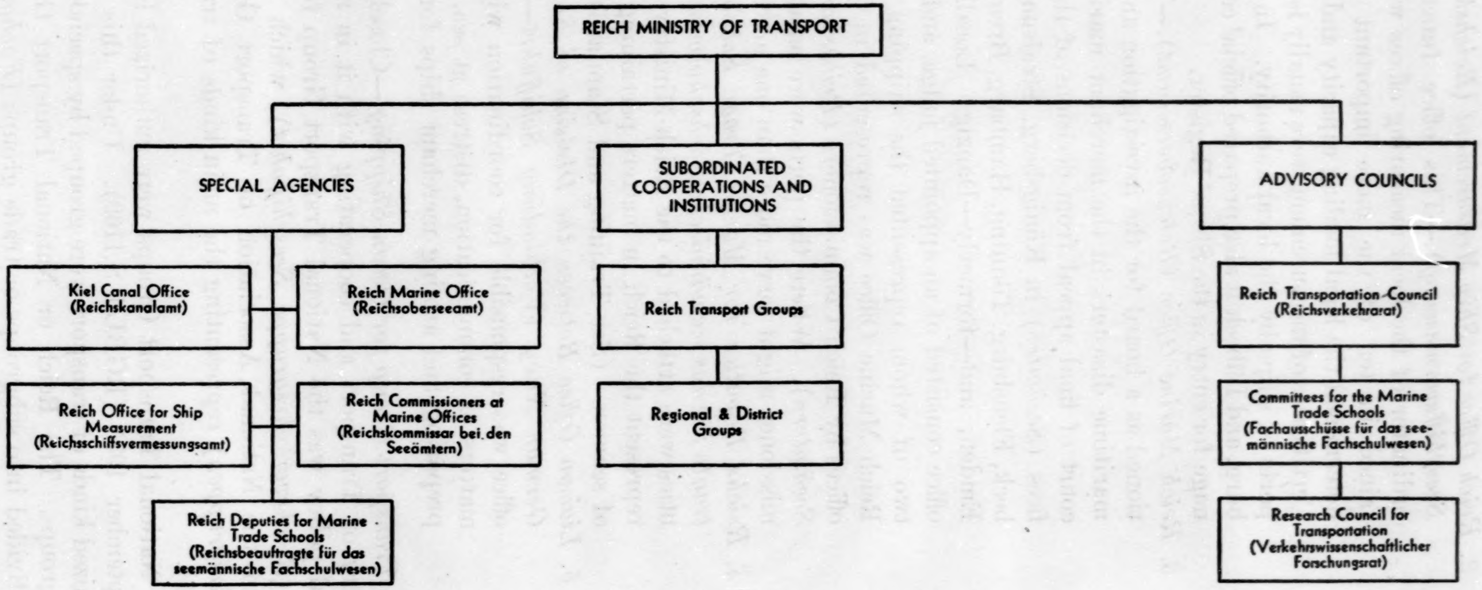

REICH MINISTRY OF TRANSPORT
Secretary of State
Under-Secretary of State
Under-Secretary of State
E RAILROAD DEPTS.
B DEPT. OF ADMINISTRATION AND INLAND SHIPPING
Group BS INLAND SHIPPING AND DEFENSE
W WATERWAYS DEPT.
Group WA WATERWAYS ADMINISTRATION
S OCEAN TRANSPORT DEPT.
K MOTOR TRANSPORT DEPARTMENT
DIVISION OF HYDRAULIC ENGINEERING
DIVISION OF SHIPPING

Chart 2—AGENCIES, SUBORDINATED COOPERATIONS AND INSTITUTIONS AND ADVISORY COUNCILS RELATED TO OCEAN SHIPPING IN THE REICH MINISTRY OF TRANSPORT, 1939


REICH MINISTRY OF TRANSPORT
SPECIAL AGENCIES
SUBORDINATED COOPERATIONS AND INSTITUTIONS
ADVISORY COUNCILS
Kiel Canal Office (Reichskanalamt)
Reich Marine Office (Reichsoberseeamt)
Reich Office for Ship Measurement (Reichsschiffsvermessungsamt)
Reich Commissioners at Marine Offices (Reichskommissar bei den Seeämtern)
Reich Deputies for Marine Trade Schools (Reichsbeauftragte für das seemännische Fachschulwesen)
Reich Transport Groups
Regional & District Groups
Reich Transportation Council (Reichsverkehrsrat)
Committees for the Marine Trade Schools (Fachausschüsse für das seemännische Fachschulwesen)
Research Council for Transportation (Verkehrswissenschaftlicher Forschungsrat)

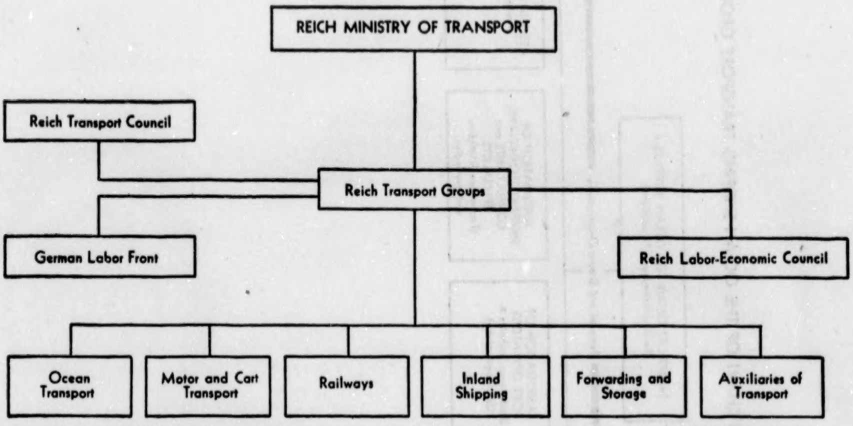
2. *Reich Office for Ship Measurement* (*Reichskommissariat für Seeschiffsvermessung*).—This office functioned as a coordinator of the local measuring offices which were maintained in ten of the more important port cities. It determined the legal loading capacity and legal load lines. Certificates of measurement were usually issued in the home ports of ships by the local authority. In Prussia, Oldenburg, and Lübeck it also prepared official certificates of tonnage for entry in the Ships' Register.
3. *Reich Marine Office* (*Reichsoberseeamt*).—This office functioned as a board for the investigation and adjustment of maritime disasters in the merchant marine. It was the court of final appeal from decisions of the 11 marine offices (*Seeämter*) in Königsberg, Stralsund, Rostock, Lübeck, Flensburg, Tönning, Hamburg, Bremerhaven, Brake, Emden, and—formerly—Danzig. Locally each marine office consisted of an appointed judge, and four associates, two of whom represented the shipping industry. The Reich Marine Office was represented in the local marine offices by Reich Commissioners (*Reichskommissar bei den Seeämtern*). Where the ports were small, a Reich commissioner might serve more than one marine office.
4. *Reichs Deputies for Marine Trade Schools* (*Reichbeauftragte für das seemännische Fachschulwesen*).—These deputies were attached to the Reich Ministry of Transport to represent the Reich in matters pertaining to the training of seamen. (See Training and Standards above.)
5. *Liaison Office Between the Division of Shipping and the German Navy* (*Verbindung Schiffahrt—Marine*).—This office was responsible for coordination with the Navy in matters of communication, distress at sea, ice patrol, and preparing and arming merchant ships for war service.

(*b*) *Transport Group for Ocean Shipping.*—Closely related to the Ministry of Transport and cooperating with it in matters of commercial policy was the National Transport Group for Ocean Shipping (*Reichsverkehrsgruppe Seeschiffahrt*), which in turn was a part of the National Association of Transport Groups (*Reichsverkehrsgruppen*) representing the main kinds of transport (charts 3 and 4).

The National Transport Groups were authorized by the decree of 25 September 1935 (RGBL.I S.1169). Under this law all legally recognized kinds of transport were grouped by specialities into transport groups. The Reich or National Transport Groups were, in turn, divided into subgroups or trade groups (*Fachgruppen*). With the consent of the Reich Minister of Transport the trade groups might organize on a regional and a district basis (*Bezirksverkehrsgruppen und Bezirksuntergruppen*). In the case of the shipping groups the subdivisions were not based on political boundaries, but on port zones.

The leaders (*Leiter*) of the Transport Groups were appointed or dismissed by the Reich Minister of Transport. With the consent of the Reich Minister of Transport, they might select their assistants, the business managers of the respective Reich transport groups (*Hauptgeschäftsführer*), and the leaders of the trade groups. Each Reich transport group had a legal council (*Beirat*) whose prerogatives and powers are defined in the law cited above (par. 18–20).

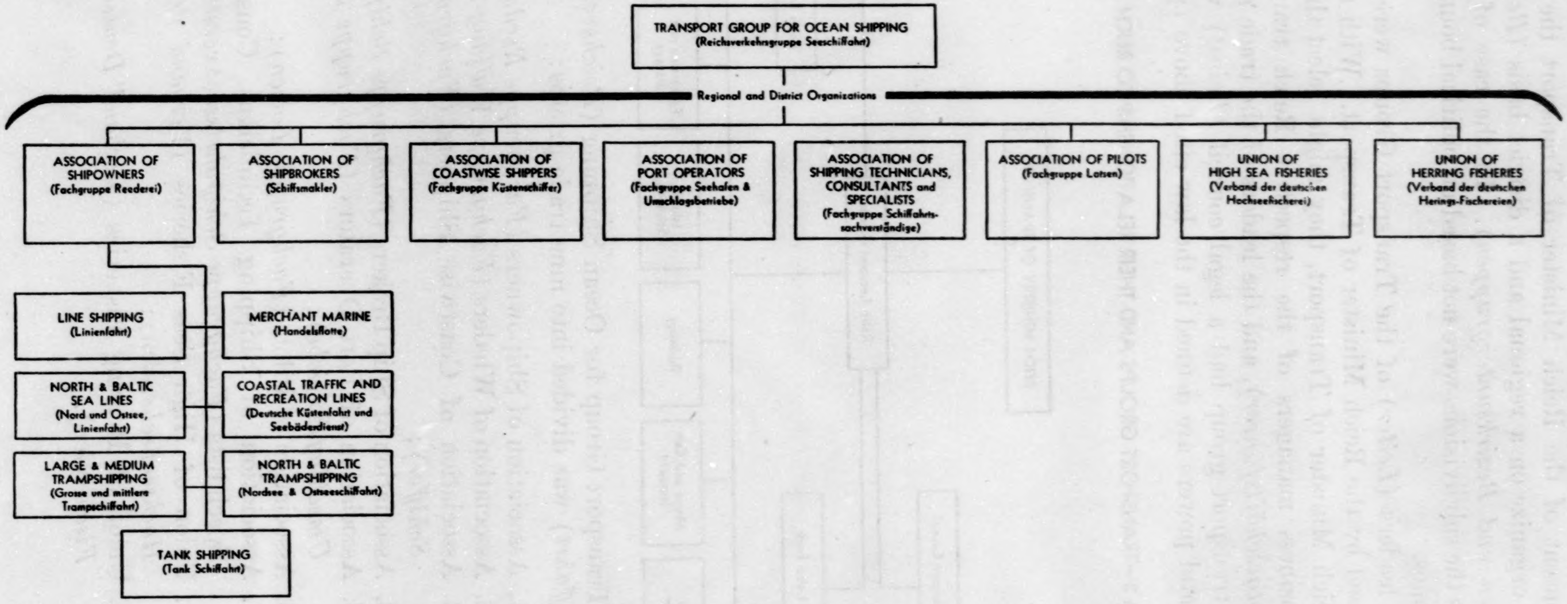
Chart 3—TRANSPORT GROUPS AND THEIR RELATIONSHIP TO REICH AUTHORITIES


REICH MINISTRY OF TRANSPORT
Reich Transport Council
Reich Transport Groups
German Labor Front
Reich Labor-Economic Council
Ocean Transport
Motor and Cart Transport
Railways
Inland Shipping
Forwarding and Storage
Auxiliaries of Transport

The Transport Group for Ocean Shipping (*Reichsverkehrsgruppe Seeschiffahrt*) was divided into nine trade groups:

1. Association of Shipowners (*Fachgruppe Reederei*);
2. Association of Whalers (*Fachgruppe Walfang-Reeder*);
3. Association of Coastwise Shippers (*Fachgruppe Küsten-Schiffer*);
4. Association of Ship Brokers (*Fachgruppe Schiffsmakler*);
5. Association of Port Operators (*Fachgruppe Seehafen-und Umschlagsbetriebe*);
6. Association of Pilots (*Fachgruppe Lotsen*);
7. Association of Shipping Technicians, Consultants, and Specialists (*Fachgruppe Schiffahrtssachverständige*);
8. Union of High Seas Fisheries (*Verband der Deutschen Hochseefischereien*);
9. Union of Herring Fisheries (*Verband Deutsche Herings-Fischereien*).

Chart 4—ORGANIZATION CHART OF THE OCEAN SHIPPING TRANSPORT GROUP


TRANSPORT GROUP FOR OCEAN SHIPPING (Reichsverkehrsgruppe Seeschiffahrt)
Regional and District Organizations
ASSOCIATION OF SHIPOWNERS (Fachgruppe Reederei)
ASSOCIATION OF SHIPBROKERS (Schiffsmakler)
ASSOCIATION OF COASTWISE SHIPPERS (Fachgruppe Küstenschiffer)
ASSOCIATION OF PORT OPERATORS (Fachgruppe Seehafen & Umschlagsbetriebe)
ASSOCIATION OF SHIPPING TECHNICIANS, CONSULTANTS and SPECIALISTS (Fachgruppe Schiffahrts-sachverständige)
ASSOCIATION OF PILOTS (Fachgruppe Lotsen)
UNION OF HIGH SEA FISHERIES (Verband der deutschen Hochseefischerei)
UNION OF HERRING FISHERIES (Verband der deutschen Herings-Fischereien)
LINE SHIPPING (Linienfahrt)
MERCHANT MARINE (Handelsflotte)
NORTH & BALTIC SEA LINES (Nord und Ostsee, Linienfahrt)
COASTAL TRAFFIC AND RECREATION LINES (Deutsche Küstenfahrt und Seebäderdienst)
LARGE & MEDIUM TRAMPSHIPPING (Grosse und mittlere Trampschiffahrt)
NORTH & BALTIC TRAMPSHIPPING (Nordsee & Ostseeschiffahrt)
TANK SHIPPING (Tank Schiffahrt)

The Association of Shipowners, along with other trade groups, was set up as a public corporation under the emergency legislation of 23 December 1931 and by the law of 16 June 1933. It was charged with (1) market regulation and the supervision of compulsory cargo sharing; (2) the establishment of registration centers (*Neldestellen*) where boat owners were required to report cargo carried and cargo space available; (3) coordination with the government.

It was financed by a levy upon its members of 3 or 4 pfennigs per gross ton owned. Originally membership was voluntary but when the association was attached to the newly constituted National Transport Group for Ocean Shipping in 1935, membership was made compulsory for every German shipowner engaged in shipping between Germany and non-German ports. Shippers engaged in traffic between German ports belonged to the Association of Coastwise Shippers.

The association was the channel used by the government in all dealings with shipowners.

(*c*) *The Leadership Organization.*—At about the same time German shipping was placed under the peak organization for German shipping (*Spitzenvertretung der Deutschen Seechiffahrt*). The exact scope of the relationship is not clear. This organization derived its power from legislative authority, and membership was made compulsory for all associations, groups of associations, and individual businesses concerned with shipping.

(*d*) *Reich Transport Council* (*Reichsverkehrsrat*).—By the law of 27 February 1934, entitled "a law to simplify and reduce the cost of the administration of transport," the Reich Minister of Transport was made the sole leader of a unified and coordinated German transport policy. He was to be the middleman between the Reich and those Germans who made up the transport group. To advise him in this function and to provide him with basic information on the major transportation problems, a Reich Transport Council was called into being early in 1934. It was composed of (a) representatives from the transport groups or where there was no transport group, the carriers, and (b) representatives of the users of transport facilities. This council did not have the power to make decisions. One of the six transport groups in the Reich Transport Council was the Transport Group for Ocean Shipping. The members of the Council were appointed by the Minister of Transport and served without pay. The Minister was empowered to determine how often the Council should convene.

(*e*) *Reich Chamber of Economy and Labor Front* (*Reichswirtschaftskammer und Deutsche Arbeitsfront*).—Ocean shipping was also represented in the Reich Chamber of Economy. By the concurrence of the Reich Ministry of Transport with the agreement of 3 March 1935 between the Reich Economic Minister (*Reichswirtschaftsminister*), the Reich Minister of Labor (*Reichs Arbeitsminister*), and the Reich leader of the Nazi Party (*Reichsorganisationsleiter der NSDAP*), the Reich Transport Groups were members of the German Labor Front (*Deutsche Arbeitsfront-DAF*). Before Hitler, unions representing labor engaged in ocean shipping were organized on the basis of trades. In the early days of Hitler, they were absorbed by the Labor Front, which seized their funds.

(2) *Subsidies and Government aid.*

(*a*) *Estimated amount of subsidies and aids.*—Since the advent to power of the Nazi government, it has become impossible to obtain an accurate picture of subsidies and other government aids to shipping. Budget figures for government aids to shipping were very rarely published, and such figures as were given out were largely meaningless, due to transfers from one fund to another without notice. It is estimated, however, that subsidies and other aids to shipping averaged from $20,000,000 to $25,000,000 per annum.

(*b*) *Types of Government aid.*—The following types of government aid have been extended to shipping companies in recent years:

1. Construction bounties;
2. Interest contributions on construction costs;
3. Scrapping loans;
4. Loans to shipyards;
5. Reduced rail rates on shipbuilding material;
6. Remission of customs duty on certain materials;
7. Use of exchange restrictions to favor national ships;
8. Operating subsidies, reimbursement for losses;
9. Reservation of the coasting trade;
10. Government passengers and cargo reserved to national vessels;
11. Use of quotas and business restrictions to force merchants into shipping by German vessels;
12. Use of shipping provisions in barter agreements with foreign countries;
13. Preferential rail rates for Central European shippers using German ports.

In certain cases, loans from private banks had the effect of government aid since the government exercised considerable control over the banks and could compel reduction of interest or even forgiveness of principal.

(*c*) *Construction bounties, interest contributions, scrapping loans.*—No construction bounties were granted by Germany before World War I and no bounties were given after the war prior to 1934 except those advanced in rebuilding the German merchant fleet following its confiscation by the Allies. Among the funds advanced in this connection was a loan of 50,000,000 RM.—at a low rate of interest—made in 1925, and a loan of 18,000,000 RM. made in 1926.

Those loans were supplemented by direct interest contributions against bank loans, among which was a private loan of 45,000,000 RM. to North German Lloyd to enable it to build the "*Bremen*" and the "*Europa.*"

In 1934 the government granted a construction bounty in order to reduce unemployment and to continue the rebuilding of the merchant marine. This bounty began at 20 percent of the cost of construction, plus 4 percent per annum for 6 years on the remaining four-fifths of the cost, as an interest contribution. A sum of 8,700,000 RM. was reported set aside for this project. In 1935 the contribution was estimated as 10,000,000 RM., and in 1936 the bounty was made a flat 30 percent. It is not known whether this bounty was continued in 1937.

In 1932 a scrapping loan of 12,000,000 RM. was granted. It is believed that none of this has been repaid.

(*d*) *Operating loans, operating subsidies, etc.*—With the collapse of the German Bank (*Deutsche Bank*) in July 1931, the shipping companies found their credit cut off. The state credit company (*Reichskreditgesellschaft*) granted a secret loan of 20,000,000 RM. at 11 percent, and in March 1932 the government granted a direct loan of 70,000,000 RM. to the liner companies and 7,000,000 RM. to the operators of tramp ships.

When the German shipping companies were reorganized in 1935 pressure was put on government and private banks, and interest rates on outstanding loans of these organizations were reportedly substantially written off. The loans thus became a direct bounty.

Direct navigation subsidies were granted in 1933, in order to counteract depreciated foreign currencies and increase employment by putting laid-up vessels in operation. This was the first German navigation bounty, with the exception of a few minor contract mail payments in pre-war days. On the basis of shipping balance sheets, payments in 1934 were estimated as at least 40,000,000 RM. per year. Payment is reported to be on the basis of 3 reichspfennings per day for each gross registered ton in service, and a further contribution equal to 20 percent of the crew wages. The maximum annual payment must not exceed 15 RM. per gross ton per annum for vessels over 1,000 GRT in size.

For daily expenses of ships of various types operated by the Hamburg-America 1936, see annex K. This annex shows, among other thing, the subsidies paid to each ship.

(*e*) ***Discriminations.***—Under the Nazis regime, import and exchange controls have been used to force German business and individuals to patronize national vessels. In the middle 1930's regulations went into effect which limited foreign companies in the withdrawal of freight or passage money received in Germany. This was in effect overt aid to German shipping in that it forced foreign companies to pile up an unusable balance in German banks, to purchase unwanted German goods, or to dispose of their holdings at a sacrifice. Hence it was more difficult for them to operate profitably than it was for a German company.

Numerous other discriminations are believed to have been used by Germany, including railroad rates which favored German ports and even, at an earlier time, quarantine regulations which diverted emigrants to German ships. Indeed, it has been stated that Germany has always been a major user of preference and discrimination in aiding its shipping.

(*f*) *Subventions to compensate for exchange losses.*—According to a report believed to be accurate, the net earnings of German lines from foreign sources were taken over by the government for use in building foreign exchange reserves. The companies were compensated in RM. at the rate of 2.50 RM. to the dollar. This rate was purely artificial, RM. being actually worth about 4.20 to the dollar. To offset this loss the German government paid cash subventions to lines engaged in foreign trade. The money was appropriated by the government and then turned over to the Association of Shipowners for allotment or credit to the various companies.

Total figures are not available, but it is reported that in the 3 years of 1936, 1937, and 1938, the Association of Shipowners, on behalf of the German government, paid an average of 10,340,000 RM. a year to North German Lloyd and 4,850,000 RM. a year to Hamburg-America Line or 45,570,000 RM. for the 3-year period. The value of these subventions in American money was $18,228,000 if the artificial rate of 2.50 RM. to the dollar is used. It was $10,849,000 if the world rate of 4.20 RM. to the dollar was the basis for computing.

Although the subventions represented 21.5 percent of the total earnings of North German Lloyd and 15.9 of the total earnings of the Hamburg-America Line, spokesmen for both the government and the Association of Shipowners stated that they did not fully compensate for the loss through this forced conversion. According to government spokesmen, the loss through these transactions was approximately 40 percent; generally speaking subventions were from 10 to 20 percent, although occasionally they were as high as 25 percent. Spokesmen for the Association of Shipowners stated that payments from the government amounted to less than half the loss.

b. Steamship Lines.

(1) *The Hapag-Lloyd combination.*—Between 1930 and 1935, the greater part of the German merchant marine was operated by Hapag-

Lloyd (Hamburg-America Line and North German Lloyd), a privately owned combination of shipping interests, which, according to some reports, operated as much as 70 percent of German shipping.

The Hapag-Lloyd combination operated under the so-called Union Treaty, an agreement which did not prove entirely satisfactory, particularly after world trade was reduced by the depression. As far back as 1932, therefore, the German government suggested that this large organization be split up into several smaller companies, and in the spring of 1933, the mayors of Hamburg and Bremen supported this position.

The reason given was that Hapag-Lloyd, with its many big ships designed for passenger traffic, was forced to continue services that were not profitable whereas medium-sized and smaller companies did not need to maintain services which did not pay their own way.

But it should be pointed out that the German lines were not the only ones with too many big expensive liners, and that in other countries (Italy, Great Britain) the solution was merger rather than dissolution of existing combinations. It should be pointed out also that when Hapag-Lloyd was dissolved [illegible] German government acquired large blocks of stock in H[illegible]-America, North German Lloyd, and other companies, making payment by cancelling some part of outstanding loans.

Presumably, therefore, financial considerations played some part in the proposed arrangements.

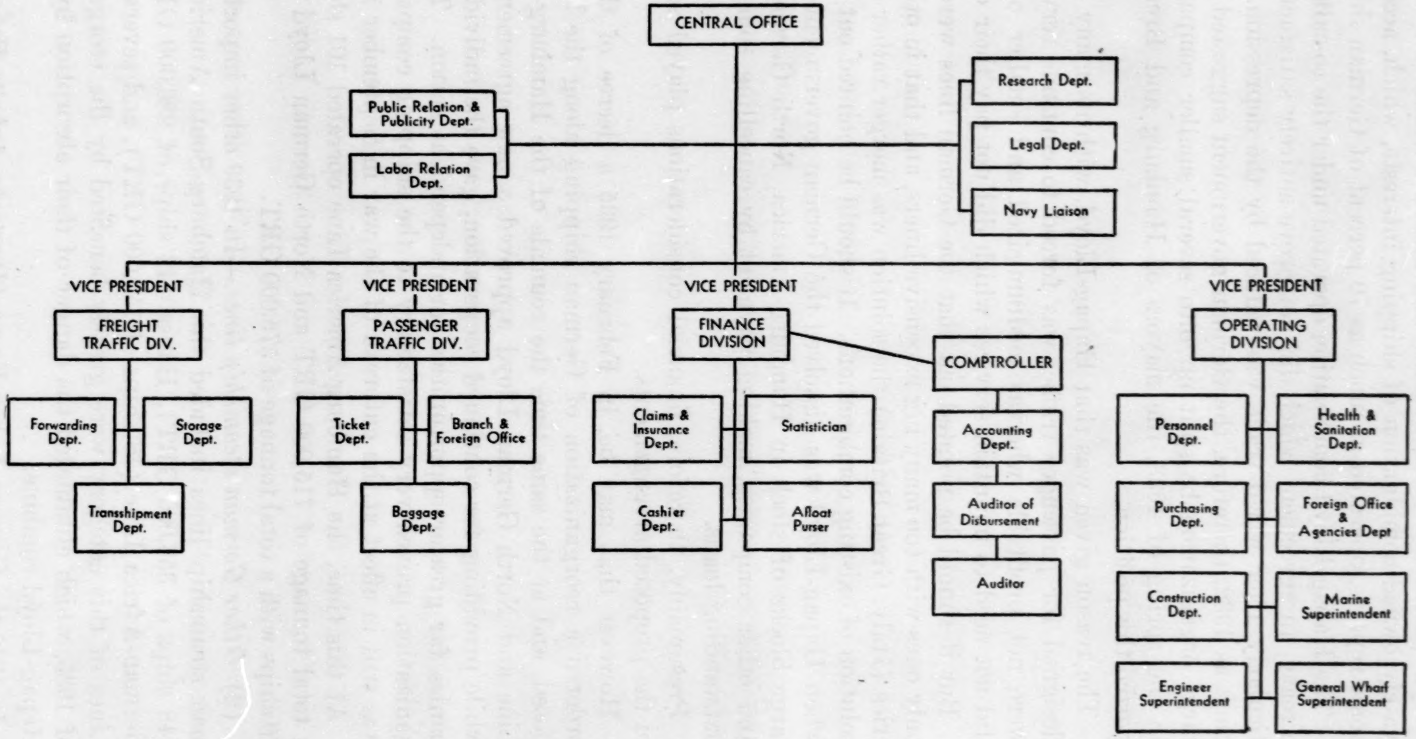
However that may be, in February 1935 a decree of the Reich ordered a reorganization of German shipping along the lines proposed, and at the same time the councils of the Hamburg-America Line and North German Lloyd approved a new agreement which, while providing for continued cooperation, gave the individual companies far greater opportunities for independent action. The reorganization proved very satisfactory to the shipping companies and was still in effect at the outbreak of the war in September 1939.

At this time, the Hamburg-America Line operated 101 ships with a total tonnage of 715,000 GRT and North German Lloyd operated 70 ships with a total tonnage of 575,000 GRT.

(2) *Other German steamship lines.*—In 1939 other important German steamship lines included the Hamburg-South American Line (48 ships of 358,000 GRT), Hansa (42 ships of 286,000 GRT), the German-Africa Line (18 ships of 158,000 GRT), and several others. Lines of this category were greatly benefited by the reorganization of 1935, which eliminated the danger of their absorption by the big Hapag-Lloyd combine.

In 1936 the German Labor Front (*Deutsche Arbeits Front*, *DAF*) began acquiring vessels for Strength Through Joy (*Kraft durch*

Chart 5—ORGANIZATION OF A TYPICAL OCEAN SHIPPING COMPANY


CENTRAL OFFICE
Public Relation & Publicity Dept.
Labor Relation Dept.
Research Dept.
Legal Dept.
Navy Liaison
VICE PRESIDENT
FREIGHT TRAFFIC DIV.
Forwarding Dept.
Storage Dept.
Transshipment Dept.
VICE PRESIDENT
PASSENGER TRAFFIC DIV.
Ticket Dept.
Branch & Foreign Office
Baggage Dept.
VICE PRESIDENT
FINANCE DIVISION
Claims & Insurance Dept.
Statistician
Cashier Dept.
Afloat Purser
COMPTROLLER
Accounting Dept.
Auditor of Disbursement
Auditor
VICE PRESIDENT
OPERATING DIVISION
Personnel Dept.
Health & Sanitation Dept.
Purchasing Dept.
Foreign Office & Agencies Dept
Construction Dept.
Marine Superintendent
Engineer Superintendent
General Wharf Superintendent

Freude) to be used by its membership. The plan was to build annually for 5 years one vessel of 25,000 GRT and thereafter vessels of 12,000 to 15,000 GRT until the organization had a fleet of from 15 to 20 vessels. At the beginning of the war the German Labor Front operated the following vessels:

	GRT
Oceana	8, 791
Robert Ley	22, 000
Wilhelm Gustloff	25, 484
Der Deutsche	11, 483
Sierra Cordoba	11, 492
Stuttgart	13, 387

Germany also possessed a large fleet of tramps. In times of depression these suffered from the competition of line vessels diverted to this service. A government decree of September 1936 provided for distribution of cargo available in German ports between coastwise lines and operators of tramp services, the latter to obtain most of the bulk, the former most of the package cargo.

Further information regarding important German steamship companies is given in annex L.

(3) *Organization and administration.*—In general German shipping companies were organized similarly to shipping companies throughout the world. However, because of the nature of government control in Germany, the legal department, the labor relations department, and the navy liaison had close connections with the government. The organization of a typical shipping company is shown in chart 5.

B. The Merchant Marine During the War.

1. Wartime Function of the Merchant Marine.

a. Overall Picture.—Upon the outbreak of the war in 1939, the nature of the services performed by the German merchant marine changed radically. Whereas in the case of Great Britain and later the United States, the national merchant marines were obliged to extend themselves and to take on added burdens in their overseas services, the German merchant marine was forced to draw in.

Total figures for the distribution of German shipping are not available, but in 1939 at least 40 percent of Germany's total tonnage was engaged in berth sailings to foreign ports. But after the outbreak of hostilities, all long-run foreign sailings were abandoned except for the relatively few ships which could run the blockade.

On the other hand, coastal and short-run foreign traffic took on increased importance.

Among the services used by Germany during the war are the following:

(1) Germany to Norway;
(2) Germany to Sweden and the Baltic;
(3) Germany to Northwest Europe;
(4) Bay of Biscay to Spain and Portugal;
(5) Mediterranean and Black Sea traffic.

There was also developed a small blockade-running traffic to the Far East. It was important because it handled critical materials.

b. Northern Waters.

(1) *Norway.*—For some time the greatest concentration of German and German-controlled tonnage has been in traffic between Germany and German-controlled ports and Norway, or along the Norwegian coast. Moreover, the tonnage requirements in this area have recently been considerably increased.

On 15 August 1943 Sweden cancelled the transit facilities which had been granted to Germany in 1940. Troops and military stores, which were formerly sent over the Swedish railways to Norway had, therefore, to be sent by sea, and this required additional tonnage. Much personnel and light stores are now sent by sea to Oslo and thence by rail to Central Norway. The shuttle service of troopships operating between Oslo and Danish ports has been augmented and speeded up to deal with the additional traffic. The fleet of military supply ships operating between Germany and Norway has been reinforced for the carriage of heavy stores.

At the end of 1943, 1,450,000 GRT of shipping were known to be operating on the Norwegian Coast. Of this total 950,000 GRT were engaged in commercial traffic, 380,000 GRT were engaged as troop transports and service supply ships, and 120,000 GRT were tankers. No less than 750,000 GRT of the vessels trading commercially were carrying supplies between Germany and Norway.

It should be noted that shipping in the Norwegian area falls into three categories: (a) overseas shipping; (b) coastal shipping; and (c) short-range distributive shipping.

If traffic in the Oslo zone is accorded an activity rating of 100, the relative density of the three types of traffic in the seven administrative zones of Norway is as follows:

Table 5. Comparative density of traffic by zones

Zone	Short-distance distributive traffic	Coastwise traffic	Oversea traffic	Total traffic
Oslo	100	100	100	100
Stavanger	36	100	57. 5	62. 5
Bergen	36	100	54. 5	61. 75
Trondheim	70	108. 5	46	56
Narvik	59	79	30	38
Tromso	87	52	21	27. 5
Kirkenes	29	10. 5	10. 5	11

Projected seaborne traffic to and from Norway during 1943 is shown in annex M, which gives projected traffic north of Dover. A density chart estimating the flow of seaborne traffic for all Scandinavian trade is shown in annex N.

(*a*) *Overseas shipping.*—As indicated above, the greatest concentration of overseas traffic is in the Oslo area. The density of this traffic decreases progressively toward the north.

The average tonnage of the vessels employed in this service is approximately 2,500 GRT. Of these vessels 25 percent are of over 4,000 GRT, 54 percent between 1,000 GRT and 4,000 GRT, and 21 percent of less than 1,000 GRT.

Excluding those under 1,000 tons, ships engaged in this traffic are of three main types: (a) troopships; (b) large vessels of 4,000 GRT and over; (c) ships of 1,000–4,000 GRT.

The troopships are vessels of 2,000–9,000 GRT. Most have passenger accommodations. They are exclusively engaged in the transport of troops and war material of the first priority. The greatest concentration of these troopships is to be found on the route between German and Danish ports and Oslo, but a limited number based on Trondheim operate as far north as Tromso.

Other ships of over 4,000 GRT are engaged almost entirely in carrying military stores and bulk commodities such as coal and coke from continental ports to Norway. They return with bulk cargoes such as mineral ores, woodpulp, and fertilizers. A large block of this tonnage does not proceed beyond the Oslo-Kristiansand South range. Some, however, trade to ports as far north as Kirkenes.

Of the vessels of 1,000–4,000 GRT class, most are under 3,000 GRT. They carry military stores and bulk commodities and are also employed for transporting provisions and general cargoes. Not only are they more equally distributed among the various zones than the larger ships, but they are also frequently used for transporting coastwise cargoes.

If 1943 estimates are correct, overseas traffic from Norway consists largely of iron ore (2,500,000 metric tons), pyrites (500,000), fish (350,000), fertilizers (130,000), and timber (110,000). Further details will be found in annex O, which also gives ports of destination and estimates for Sweden and Finland.

(*b*) *Coastwise shipping.*—Coastwise shipping is greatest between Trondheim and Oslofjord, the traffic in the former area being slightly greater than that in the Oslofjord, Bergen, and Stavanger (Kristiansand South) areas respectively. As is the case with overseas services, coastwise shipping diminishes rapidly north of Trondheim.

The average tonnage of vessels in coastwise service is 1,200 GRT, 4 percent of the vessels engaged being over 4,000 GRT, 30 percent between 1,000 and 4,000 GRT, and 66 percent less than 1,000 GRT. This fleet is maintained by (1) Norwegian ships requisitioned by the enemy, (2) Norwegian vessels operated by the Norwegian Shipping Directorate, and (3) Axis-controlled vessels allocated to the trade. Some ships of 1,000–4,000 GRT operated in overseas trade take on new cargo at Norwegian ports and continue up the coast.

Coastal traffic consists largely of native raw materials shipped to domestic processing centers, finished products from these centers shipped to areas of consumption in Norway; locally produced foodstuffs, provisions such as fish and timber destined for the Norwegian civilian population; and overland priority supplies sent overland from Oslo to Trondheim for shipment further north by sea.

(*c*) *Short-distance distributive shipping.*—Around each large port there is a network of distributive services. The volume of this traffic is greatest at Oslofjord, Trondheim, and Tromso. Almost all ships engaged in it are under 1,000 GRT and most of them are under 500 GRT.

Before the war Norway was well provided with vessels of this type, which were used to carry passengers and freight to small Norwegian ports, especially those up fjords and on offlying islands. But because of the use of large numbers of them as escort vessels, minesweepers, and harbor and patrol craft, there is now a severe shortage.

To meet this situation Germany has (a) resorted to a large-scale use of fishing vessels for short-distance supply duties and (b) the transfer of small coasters and a considerable number of specially constructed barges from other countries, notably Belgium and Holland, to Norwegian waters.

There is no information as to the total number of vessels of this type available, but it is known that the Speer organization (The Ministry of Armament and War Production) controls over 200 vessels in Norway, few of which are over 500 GRT. The *Wehrmacht* also operates over 400 fishing vessels and other small craft to carry troops and military supplies to remote outposts. The majority of these craft are between Narvik and Kirkenes.

(2) *Sweden and the Baltic.*—Iron ore shipments from Sweden form the most important part of Germany's Baltic traffic. Indeed it has been pointed out that for the German iron and steel industries the Baltic has an importance not unlike that of the Great Lakes to the iron and steel industry of the United States.

Estimates for 1943 indicated that this traffic would amount to 8,500,000 metric tons, but it is believed that actual deliveries exceeded 10,000,000 tons. That this was above normal is indicated by the fact that the new German-Swedish trade agreement provides for the shipment of only 7,000,000 metric tons of ore in 1944.

The large shipments in 1943 were in part because of an early spring which permitted the resumption of full-scale shipping activity in the Baltic 2 months earlier than usual. Ore imports during the first 6 months were at least 30 percent above those in a corresponding period in 1942. In the last 6 months, however, the traffic was less than in the corresponding period in 1942. This reduction was caused by lack of ore at the Swedish ports because of difficulties in rail transport between the mines and the ports, and by congestion at the German ports of discharge caused by bombing.

Information is not available as to the amount of this ore moved in German bottoms, but it was certainly less than half, for at least 50 percent is believed to have been shipped on Swedish vessels. Figures are not available for the distribution by flag of Baltic ship movement in 1943, but November entrances and clearances from Swedish ports give some indication of German participation. The total figure was about 750,000 net tons entered and the same amount cleared, of which 52.1 percent were Swedish, 24.9 Danish, 18.1 German, and 4.9 other flags.

Other important Baltic traffic included timber (est. 713,000 metric tons), pulp and paper (est. 526,000 metric tons) and steel (est. 73,000 metric tons) from Sweden; timber (est. 747,000 metric tons) and pulp and paper (est. 155,000 metric tons) from Finland; and oil shipped from Germany to Finland, Lithuania, and Latvia.

Recently there have been shipments of coal and coke from Stettin to Hamburg via the Kiel Canal, shipments of cement from Danzig to Danish ports and shipment of grain from Danzig to Rostock, Lübeck, Hamburg, and Bremen. There was also considerable traffic in coal, gravel, bricks, and peat between various Danish ports.

c. North Sea, Strait of Dover, English Channel.—In view of the limited amount of tonnage allocated to this area (see 2, b below) it is evident that German shipping traffic in the English Channel and the Straits of Dover is relatively small. Activity is somewhat higher in the North Sea. Estimated shipping tonnage required in 1943 for coastal traffic in Germany, Denmark, and Holland was 350,000 GRT of passenger/cargo vessels and 10,000 GRT of tankers but this included tonnage used in the Baltic as well as the North Sea.

An examination of photo-interpretation reports made in 1943 shows that most vessels operating out of French ports in this area were naval craft such as minesweepers, auxiliary trawlers, etc. However, occasional cargo craft—mainly small coasters—have been observed, indicating that some trade is still being carried on.

Until 1943 the traffic into and out of Rotterdam was very heavy. In 1942 total cargo handled was 7,000,000 metric tons. In 1943 this may have dropped 3,000,000 tons.

Most of the cargo moved was Swedish iron ore, a considerable part of which has been handled by Swedish vessels, but obviously there has been some movement of German and German-controlled vessels. In this connection, it is reported that in 1941 two convoys a day left Rotterdam for Cuxhaven but in 1943 this was reduced to one convoy a day. Convoys numbered from five to eight vessels.

There was considerable traffic between Scandinavia and Delfzijl (Netherlands). Imports, largely lumber and its byproducts, en route to Switzerland and Italy totalled 250,000 tons. Exports, chiefly coal and coke, totalled 700,000 tons. At least some part of this traffic was carried on German vessels.

d. Bay of Biscay.

(1) *Spain and Portugal.*—In general, Germany has depended on three major routes for seaborne trade from the west coast of the Iberian Peninsula: (1) Bilbao to Bayonne and Bordeaux (principally iron ore); (2) Gijon to Bayonne (fluorspar); (3) Leixoes, Oporto, Bilbao to Bayonne.

(*a*) *Bilbao traffic.*—Because of difficulties in Spanish/German clearing, the iron ore trade was virtually at a standstill during the period from July through October 1943. After lengthy negotiations the Spanish government began issuing export licenses to the Germans, and by November shipments became fairly heavy again. Loadings then were 25,000 tons. In December over 40,000 tons were moved. It is clear that Germany attaches considerable importance to the acquisition of these ores and, in view of the limitations in the 1944 deliveries of Swedish ores, the rate of shipments may reach the level of 60,000 tons attained last March. Even at that, annual shipments (720,000 tons) would be little more than 10 percent of those from Sweden.

This iron ore traffic from Bilbao has recently been carried largely on 8 German vessels of about 17,000 total GRT. Three of these vessels were of more than 3,000 GRT. These larger vessels usually proceed to Bordeaux for unloading, being too large for Bayonne.

(*b*) *Gijon traffic.*—Shipments from Gijon were largely fluorspar, which was carried on small Dutch and French freighters under German control. In December 1943 these vessels were recalled to Bordeaux for military reasons. Between 4 September and 9 October four shipments totalling 1,321 tons were carried by a German freighter. If these shipments could be maintained for a year, between 15,000 and 16,000 tons, or one-third of German Europe's fluorspar deficit, could be carried by this one vessel.

(*c*) *Traffic with Portugal.*—Wartime trade with Portugal has been largely in general cargo, but since it was apparently carried by Portuguese vessels, it does not form part of a study of the German merchant marine.

(2) *Blockade running.*—To bring in certain critical materials such as tin, quinine, opium, rubber, and tungsten, Germany carried on an important, if limited, blockade-running trade with the Far East. Out-bound ships carried mercury, special steels, machine tools, etc., to Japan. The ships engaged in this trade entered and cleared from Bay of Biscay ports.

Complete figures are not available, but the following cargo is believed to have been run through the blockade between April 1943 and January 1944:

Received:	*Tons*
Rubber	4,000–5,000
Tin	Up to 3,000
Vegetable oil, quinine, etc	Up to 1,200

Cargo lost in the same period is estimated to have been 14,000 to 16,000 tons of rubber, up to 1,000 tons of tungsten, 9,000 to 12,000 tons of tin, and up to 4,000 tons of miscellaneous products.

The trade was largely carried on by modern Italian and German freighters of 6,000 to 8,000 tons with speeds ranging from 13 to 15 knots. It is estimated that only one out of 8 inward-bound blockade runners succeeded in reaching European ports in 1943.

In January 1944 there were about a dozen blockade runners in French Atlantic ports. Three were reported to be loaded and ready to sail just about the time that incoming blockade runners from the Far East were intercepted. About a month later the following boats were reported ready:

Vessel	GRT	Port
Elsa Essberger	6, 103	Bordeaux (Bassans N.).
Tannenfels	7, 840	Pauillac.
Fusijama	6, 244	Bordeaux.
Himalaya	6, 240	Brest.

A limited number of submarines, mainly Italian, with capacities of from 100 to 150 tons were also engaged in this trade.

The importance of blockade running is indicated by the recent German practice of sending out destroyers to escort these vessels through the Bay of Biscay. In 1941 and 1942 this trade was able to supply Germany and Japan with critical products, but with the extension of air patrols and the acquisition of new bases by the Allies it became more and more difficult, and in 1943 failed by a large margin to meet requirements.

e. Mediterranean and Black Sea.

(1) *Mediterranean area.*—Since the capitulation of Italy and the capture of Sardinia, Sicily, and Corsica the shipping situation in the

Mediterranean has changed fundamentally. Previously there was some traffic between Spain and Axis ports but this has now virtually ceased.

The Mediterranean is now divided into three sectors, the Western Mediterranean, the Adriatic, and Aegean. German-controlled vessels operate to some extent in each sector, but cannot pass from one sector to another.

(*a*) *Western Mediterranean.*—In November 1943 it was reported that most military traffic is now carried on by barges and other special craft. During that month 25,000 GRT of cargo vessels and 30,000 GRT of tankers were moved from Genoa to Marseille and adjacent ports, where they would be less vulnerable.

(*b*) *Adriatic.*—German garrisons on the coast of Yugoslavia are now largely supplied by sea. The main route is from Pola to Zara and thence to Sibenik and Split, but some traffic originates at Fiume and Trieste. Coasters and motor vessels of up to 5,000 GRT are used for traffic from the main ports to as far south as Sibenik, and schooners for the local and island trade. A few Siebel ferries are also used. There is no information as to the cargo tonnage handled by these services.

German garrisons in Albania are supplied by light shipping based on Durazzo, Valona, and Santi Quaranta.

(*c*) *Aegean.*—German-controlled tonnage in the Aegean is limited, and small craft, caiques, and Seibel ferries are being used more and more to supply German garrisons. There is now considerable use of Salonika as a port.

(2) *Black Sea.*—In recent months the principal German traffic in the Black Sea has been the carriage of German supplies from the Danube transshipment ports (Galati, Sulina, Braila, Constanta, and Burgaș) to south Russian ports such as Odessa, Nikolave, and Sevastopol.

In 1943, 19,000 tons of chrome ore were shipped from Turkey to Bulgaria in small motor caiques.

There is also believed to be some traffic, principally in coal, between the Black Sea and Salonika.

f. Summary.—Summing up, the wartime function of the German merchant marine seems to be: (1) to supply certain critical German war needs—viz, the iron trade with Sweden and Spain and the blockade-running trade with Japan; (2) to carry military supplies to German armies; (3) to carry on a coastal trade, thus supplementing other heavily burdened transportation systems.

2. Estimated Size of the German Merchant Marine.

a. Total tonnage.—Because the latest available figures for German and German-controlled tonnage are for a different date in each area, it is not possible to make more than an approximate estimate of the present size of the German fleet. However, it is believed that Germany now owns or controls at least 6,000,000 GRT of merchant shipping. The ratio of German to German-controlled shipping in the Mediterranean and Black Sea is not known, although it can be assumed that there is relatively little German-owned tonnage in this area. In the Bay of Biscay ports and north of Dover at least 3,300,000 GRT are German-owned.

b. North of the Strait of Dover.—An estimate of September 1943 puts the German and German-controlled tonnage north of the Strait of Dover at 4,866,000 GRT. An estimate of December 1943 puts the tonnage in this area at 4,277,000 GRT but this estimate includes only ships of 1,000 GRT or more.

It is estimated that shipping requirements in this area are 2,766,000 GRT and that after making allowances for vessels laid up, under repair or put to military or naval uses, there is a shortage of 383,000 GRT. The details on which these estimates are based are given in annex P.

A break-down by tonnage type and by type of fuel burned for German-owned and German-controlled ships north of Dover is given in annex Q.

c. French Channel and Atlantic Ports.—An estimate of February 1944 puts the dry cargo tonnage in this area at 293,000 GRT of which 43,000 GRT can be considered as potential transfers to reinforce the fleet in northern waters. The type of the vessels in this area is given below:

	Serviceable [1]	Immobilized [1]	Total
	GRT	*GRT*	*GRT*
Cargo and passenger cargo	43,000	118,000	161,000
Large passenger vessels		32,000	32,000
Fishing craft	53,000	12,000	65,000
Trading with Spanish ports	16,000		16,000
In refuge in Spanish and Portuguese ports	2,000	17,000	19,000
	114,000	179,000	293,000

[1] Vessels which could be brought into service in approximately 6 weeks are regarded as serviceable. Vessels which have made no movement for a considerable time are considered immobilized.

No further break-down of the above estimate is available, but detailed estimates as of September 1943 are shown in annex R. Both German and French vessels are shown. Also shown is estimated tanker tonnage in this area as of September 1943. It is approximately 111,719 GRT.

d. Mediterranean Area.—Tonnage estimates in this area are subject to a wide margin of error because numerous unidentified losses, eign exchange, and many ships, including some on foreign account, were laid aside incomplete, or even dismantled when the slip space was urgently required for other purposes. The switchover to a full submarine program took the best part of a year.

Very little information is available regarding merchant ship construction before early 1941, when an aerial survey of the principal western ports showed only three vessels of any size on the building slips of the main German yards, and about 9 coasters and 17 small unclassified craft on the stocks at lesser yards. At the same time 6 large merchant vessels were seen to be in the fitting-out stage, but little or no work was being done on 3 of them. During 1941 the only dry-cargo vessels completed were small coasters, but 1 large tanker was launched in June 1941 in Hamburg. Little progress was observed on the several merchant vessels and coasters which were still in the building or fitting-out stage towards the end of 1941.

A revival in German merchant shipbuilding began toward the second half of 1942 when Germany's shipping losses in medium cargo-carrying tonnage began to create serious problems. First, Germany began to finish some of the hulls which had been laid up uncompleted in various ports and yards; at the end of 1942 there were 22 such hulls, including the 10,000-ton tanker mentioned above.

The first German merchant ship laid down in at least 2 years was begun in June 1942 and in the period from November 1942 to April 1943, 10 further keels were laid. They were for vessels of 3,000 GRT. In the following 6 months the keels of 13 new merchant ships were laid. This was the commencement of the 1943–45 "Hansa" merchant shipbuilding program described below.

(*b*) *The Hansa program.*—The so-called "Hansa" program was initiated in the spring of 1943 and is an emergency 3-year plan for the rapid construction of about 195 cargo ships (total tonnage 715,000 GRT). Among them were 140 of 3,000 GRT, 50 of 5,000 GRT, and 5 of 9,000 GRT. By far the greatest part of the orders were placed with Dutch shipyards, but some were placed in Denmark and Belgium. The share of German shipbuilding was to be 20 vessels of 3,000 GRT, and 2 of 5,000 GRT, but this quota was soon increased.

The program is said to be in charge of the *Schiffahrtstreuhand Gesellschaft* (possibly a holding company for shipbuilding interests), with some supervision by the Main Committee for Shipbuilding (*Hauptausschuss Schiffbau*) (see 4, a, i below). In each country involved one company has been made responsible for centralization of work and output. Few particulars are available as to allocation of orders for engines, boilers, auxiliary machinery, etc. In Holland a large number of firms apparently will participate, among them the Werkspoor & Netherlands Drydock Company. In Belgium the work seems to have been allocated to the Ste. Anon. John Cockerill. Various parts and accessories, thrust blocks, propellers, deck machinery, electrical installations, etc., have been assigned to several German companies.

The Reich Commissioner of Ocean Shipping (see 4a below) had power to assign priorities for shipbuilding work and to speed up turn-round and repairs. These powers later were transferred to the Ministry of Armament and War Production.

In the 5 months ending 30 April 1943 10 merchant vessels of standard 3,000-ton design were laid down. By December 1943, 3 had been commissioned and 4 had reached the fitting-out stage. Since May 1943 work has been started on 14 more hulls of the 3,000-ton design. At the present time 21 hulls totalling some 63,000 GRT are in varying stages of construction. However, commissionings in German yards during the first 6 months of 1944 are unlikely to exceed 30,000 GRT.

That the program is being intensified is shown by the fact that the number of shipyards allocated to it has been increased from 7 to 10. However, work on ships commenced before the program was initiated has been more slow. Only 2 vessels (with an aggregate tonnage of 9,000 GRT) laid down before 1940 were completed. There still remain some 76,000 GRT on which work is more or less suspended. The following table shows the merchant ships completed between 1 November 1941 and 1 November 1943.

Table 6. Merchant ships completed between 1 Nov. 1941 and 1 Nov. 1943

	1 Nov. 1941 to 1 Nov. 1942		1 Nov. 1942 to 1 Nov. 1943	
	Number	*GRT*	*Number*	*GRT*
Merchant ships of 200 feet length and over	4 or 5	20,000	6	23,500
Tankers and oil barges	4	2,500	3	19,500
Dredgers	1	2,500		
Coasters	1	800		
Salvage craft			2	5,000
Trawlers	8	5,000	3	2,000
Floating docks	19	(?)	5	24,000 (displacement)

It will be seen that a large number of floating docks have been built in Germany since 1941, but construction of this sort was being suspended by the end of 1943. A further item of interest is the large number of armed drifters, 80 feet long, built near Swinemünde in a yard specially constructed for this purpose; the total completed by November 1943 was upwards of 100. Certain vessels, originally laid down as merchant ships, have been fitted out as "Sperrbrecher" (convoy escorts) and are thus not included above.

(*c*) *In occupied territory.*—Aerial reconnaissance reports indicate increased activity on merchant ship construction in occupied countries, but it is often difficult to distinguish between Hansa and pre-Hansa building activities. Between August 1942 and the end of 1943, 52 vessels of approximately 167,000 GRT were laid down; 37 of 168,000 GRT most of which were laid down in 1939 or 1940, have been commissioned. Commissionings during the next 6 months may reach 100,000 GRT. Delay in completion is usually caused by the nondelivery of materials.

Such Dutch yards as have not been destroyed by bombing are very busy. The total construction on Dutch slips may now be 40 ships of 200 feet or more. Danish yards are building principally medium and large merchant vessels and tankers; their rate of progress has improved. Twenty-one ships have been observed on slips. The Norwegian yards are building chiefly whalers, coasters, and tugs. An increased number of these has been laid down, launched, and completed; 36 vessels are on the slips as compared to 32 in September 1943. A new development in Norway has been the building of concrete barges at Larvik and Bergen—22 of these were seen recently building and fitting out. The rate of work in French shipyards has been very slow and no large units have been completed or laid down.

(*d*) *Summary.*—One of the main difficulties in carrying out the shipbuilding program of the Reich is a shortage of manpower and material. For this reason it is unlikely that new construction will be able to replace losses.

Before the war, German shipyards could build any type of ship from fishing boats to the largest passenger liner, as well as miscellaneous equipment such as floating docks, floating cranes, dockgates, etc. Though at present largely converted to U-boat construction, those not destroyed or seriously damaged could resume their peacetime function whenever necessary. Most of them have extensive machine shops and can build and repair marine engines and auxiliary machinery. The table given in annex S shows the principal shipyards in Germany, with details of facilities (slips, lengths, etc.) and the class and size of ships (naval or mercantile) which can be built on them.

(2) *Repair and maintenance.*—In wartime repair work constitutes a very large proportion of shipyard activity. Tonnage figures alone are a poor criterion of the amount of work involved, as the extent of damage suffered by a vessel will vary enormously from smashed deck-house doors to the replacement of an entire bow or stern. In 1943 the average tonnage of merchant shipping lying at German shipyards for repair purposes at any one time is estimated to have been 160,000 GRT. Although there has been a tendency for some yards to specialize on repair work, most yards that can build ships can repair them.

b. Supplies and Fuel.

(1) *Construction materials.*—Because of shortages the Germans have been forced to lower many of their standards for materials used for shipbuilding. There have been frequent shortages, if only local or temporary, of steel (plates, angles, etc.) for ordinary mercantile building. This is apparently linked with the overriding demands for naval construction and repairs, and with the enemy's difficulties in producing sufficient open-hearth steel for all requirements. In a decree of November 1942 the shipbuilding industry was specified as one of a number of large steel consumers who were to be compelled to use basic Bessemer (Thomas) steel instead of open-hearth (Martin) or electric grades for normal commercial purposes. Similar limitations have been imposed on the use of brass, copper, and other nonferrous metals wherever they can conveniently be replaced by steel or aluminum. A particular instance is the lack of tin and copper for bearing metals; according to reports the substitution of steel and lead has been unsatisfactory and the difficulty has been aggravated by the poor quality of lubricants.

(2) *Fuel.*—At the outbreak of war, the percentage of coal-burners, oil-burners, and Diesel-engined vessels in the German merchant marine was as follows:

Type:	*Percent*
Coal burning	54.6
Oil burning	19.1
Diesel engine	26.3

In December 1942 the percentage was estimated to be:

Type:	*Percent*
Coal burning	71.8
Oil burning	7.0
Diesel engine	21.2

This change may be partly due to the acquisition of tonnage from the merchant marines of occupied nations, but it was also because of the conversion of oil burners and Diesel-engined craft to coal. The shortage of oil—particularly Diesel oil—was so acute that by the middle of 1942 approximately 600,000 GRT of useful tonnage were laid up. The German Reich Commissioner for Ocean Shipping also issued several public appeals to all owners of ocean-going and coastal vessels, requesting them to supply the necessary data regarding the conversion of these craft to gas operation. Not included in these appeals were fishing vessels and ocean-going and coastal ships of under 50 and over 1,000 horsepower.

c. Manpower.

(1) *Source of supply.*—There is a serious shortage of ship's officers and skilled seamen of all kinds in the Axis merchant service. This

shortage is attributed chiefly to the calling up of seamen of between 18 and 50 years of age for both the Navy and the Army, with the result that German crews are now largely composed of overage and underage men. There is also a shortage of merchant seamen in the occupied countries caused largely by the reluctance of seamen to serve the Axis, which leads to desertions, and by the fact that a large number of seamen are now serving with the United Nations.

Germany has tried to make up for this shortage by the compulsory enrollment of merchant seamen from the occupied countries, by lowering the standards for ship's officers, by the recruitment of unskilled labor, and by sending out ships short-handed.

Compulsory enrollment is in effect in Norway and Holland, where seamen engaged in other work are compelled to go to sea again; if they refuse, they are subject to deportation and forced labor in Germany. Enrollment is also believed to be in effect in Belgium and the Baltic States, and was recently reported to have been introduced in Denmark and France.

The most serious shortage is of officers, but the shortage of deck and engine hands has forced the Germans to make increasing use of unskilled labor. A German ship of 9,000 GRT sailed recently with a crew of 16, as compared with 34 on a Swedish ship of similar tonnage and type. In another ship the stokehold complement consisted of two stokers instead of three stokers and two trimmers.

(2) *Training and Standards.*

Insofar as is known, the training program is as outlined in A, 3, d, iii above, but the various courses are now completed in much shorter time. This program is believed to have been completely put into effect by 1940.

However, due to the difficulty of obtaining sufficient personnel (see above) the standards and quality of both officers and men have been considerably lowered.

(3) *Wages and contracts.*

(*a*) *Wages.*—On the whole, wages have changed very little during the war. War bonuses and danger money are paid to seamen. War bonuses vary according to where the ship is going. They are 20.00 to 40.00 RM. a month. Danger money is 1.25 RM. a day (July 1943). By order of the Reich Commissioner for Ocean Shipping, the Hapag Line in Hamburg now acts as agent for all companies in paying their personnel. The other companies send their money to Hapag, which pays the men on behalf of the Reich Commissioner of Ocean Shipping.

(*b*) *Contracts.*—The normal contract under which a merchant seaman was employed (i. e., signing on for a round trip) has been abolished; men are now bound to a particular ship. They can be released only by serious illness and the necessary medical certificate is extremely hard to obtain. Deserters are liable to severe punishment. Moreover, under a regulation dated 1 September 1942, seamen are obliged not only to assist loading and discharging their own ship, but any other ship in the same port, if work is delayed through a shortage of dock labor. However, shortly after this regulation went into effect, the Reich Commissioner of Ocean Shipping announced improvements in wages and conditions of employment. Wages were increased, better food and clothing were promised, and the rates of compensation for killed or injured seamen were made the same as those for sailors in the German Navy.

Seamen from occupied countries receive less favorable treatment aboard German ships than do German nationals. Even when their conditions are nominally the same, discrimination is officially or unofficially practiced. Because of the dissatisfaction this causes there is now a tendency to use fewer mixed crews on German ships and to employ more crews composed either wholly of Germans or of foreigners. In the latter case, however, the master, the wireless operator, and usually the chief officer are German.

(4) *Relations with the Nazi Party.*—In a special chapter of the 1937 edition of a handbook on navigation (*Schiffsfahrung*), the relation between the Nazi party and the German merchant seaman is set forth as follows:

> It is a duty and it is also of paramount importance, that the commanders of all German ships work in closest contact with the Party organization and the offices of the Party and its members on board ship and in the various seaports. All sailors sailing the seas are subject to the following Party organizations:
>
> (1) Foreign organization of the NSDAP, Office of Navigation (*Auslands-Organization der NSDAP, Amt Seefahrt*);
>
> (2) Foreign organization of the German Labor Front (*Deutsche Arbeitsfront, Auslands-Organization*) in cooperation with the Reich group Navigation (*Reichsfachgruppe Seeschiffahrt*) of the department of Energy Traffic, Administration (*EnergieVerkehr-Verwaltung*);
>
> (3) National-Socialist unions belonging to the Party's foreign organization (*National Socialistischer Verband in der Auslandsorganization*) of which each sailor is supposed to be a member.
>
> (4) Winter Aid organization (WHW—*Winterhilfswerk*), which each seaman is obliged to support. (One dish meal and money contribution.)
>
> The dues payable by all seamen to the German Labor Front (Deutsche Arbeits Front) are frequently collected by the commanders of the ships. These dues are not to be considered as insurance premiums but represent contributions to a common philosophy of life (*Beitrage zu einer weltanschaulichen Gemeinschaft*).

The Party office *Schonheit der Arbeit* (Beauty of Work) is responsible for seeing to it that decent living quarters are provided for the crews.

Since this handbook is being sent to German prisoners of war, its provisions are presumed still to be in effect.

4. Changes in Organization.

a. The Reich and German Shipping.

(1) *General situation.*—During the first 2 years of the war, the administration and organization of German shipping were relatively unchanged. Uniform planning of sea transport, joint management of shipping, complete control of cargo, and complete control of the position of all ships were in the hands of a committee of shipowners presumably representing the Association of Shipowners. At most these powers were an extension and streamlining of those possessed by the Association before the war.

At the same time a naval officer was designated as Under-Secretary of State in charge of a newly created Central Agency for Ocean Shipping (*Zentrales Seeschiffamt*) in the Ministry of Transport. The function of this agency was to coordinate the interests of shipping with other related interests in the Ministry (i. e., seaports, ship canals, inland navigation).

However, shipping problems still continued to prove difficult of solution and the shipping situation somewhat chaotic. For one thing, shipowners continued to use competitive methods and to further their own individual needs, which were not always consistent with the wartime needs of the Third Reich. Furthermore the interests of the German merchant marine had little or no representation in the higher administrative agencies concerned with the problems of the war.

To correct this situation recourse was had to an expedient which had been tried successfully before: namely, to appoint a commissioner responsible only to Hitler and with extradepartmental powers.

In July 1942 a Reich Commissariat for Ocean Shipping (*Reichskommissariat für die Seesschiffart*) was set up. Karl Kaufman, the Gauleiter of Hamburg, was appointed commissioner. He was given virtually complete control over shipping and shipbuilding. The shipping committee (see above) theoretically continued in its functions, but was under the direct supervision of Kaufmann. From the Nazi point of view, the appointment was considered to be a good one since in addition to being a reliable official of the Party, he was well connected in shipping circles.

(2) *The Kaufmann organization.*—As originally constituted the Kaufmann organization was divided into five parts (see chart 6). They were the maritime departments in Germany, the maritime departments in Norway, the maritime departments in the Mediterranean, the port commissioners and port inspectors, and the war-damage office for ocean shipping.

The maritime departments in Germany were as follows:

General organization;
Traffic planning;

Overseas shipping;
Coastal and fjord shipping;
Ports;
Shipbuilding (later transferred to the Ministry of Armament and War Production);
Equipment.

It is believed that the Norwegian and Mediterranean maritime offices are organized along similar lines. They are discussed in section b immediately below.

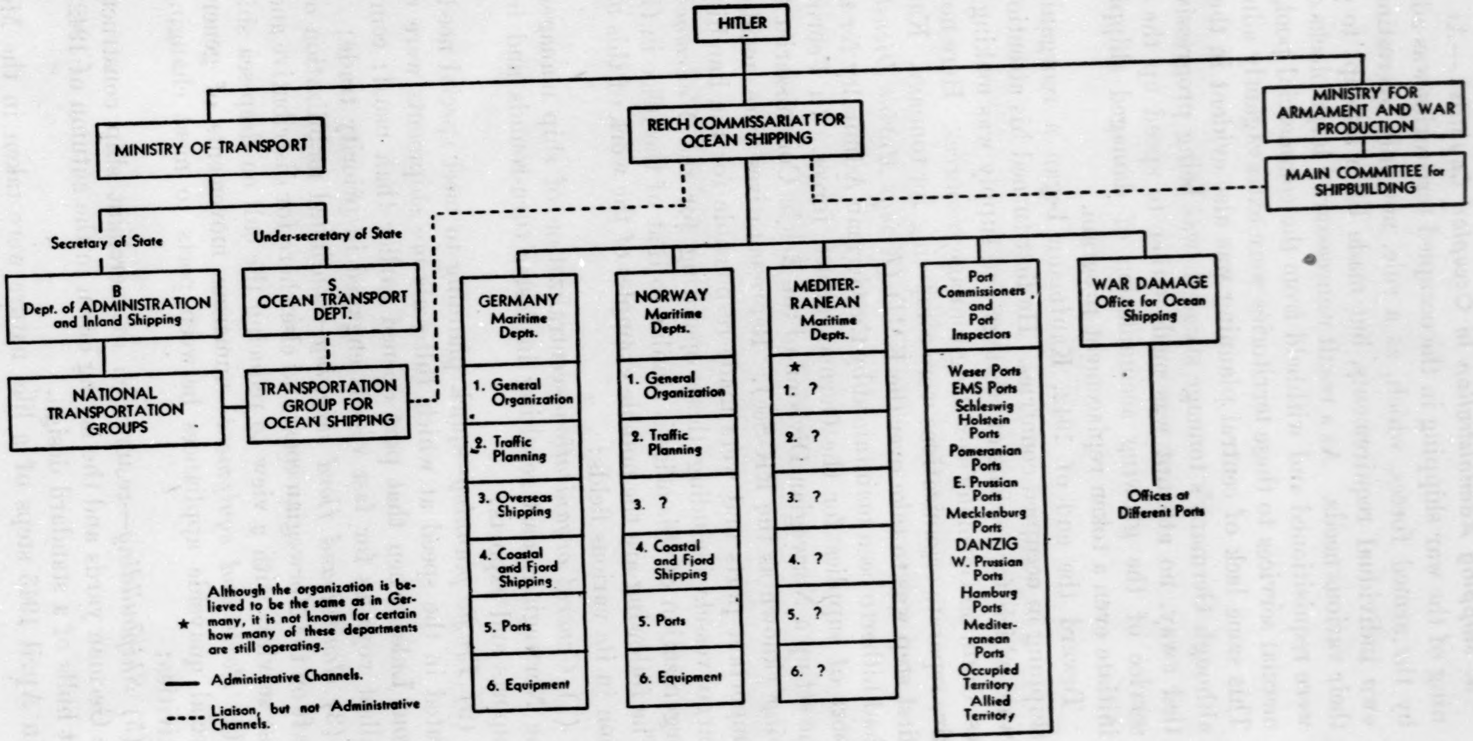
A port commissioner was appointed for each of the following port groups; the Weser ports, the Ems ports, the Schleswig-Holstein ports, the Pomeranian ports, the East Prussian ports, the Mecklenburg ports, Danzig and the West Prussian ports, the Hamburg ports. Port inspectors were stationed in the principal ports in occupied and Axis-dominated territories. In general, the port commissioners and inspectors are responsible for shipping rather than ports. It is their function to see that the most efficient use is made of available vessels.

The war-damage office (*Kriegsschädenammt für die Seeschiffart*) set up in December 1942 is believed to be responsible for insurance against war damage, but precise information is not available.

The Kaufmann organization immediately devoted itself to the solution of Germany's more pressing shipping problems. Freight rates and pay were raised and working conditions were improved. Stringent measures to secure the most efficient operation of available tonnage were adopted. The small hitherto untouched reserves of deep-sea shipping were utilized. In an endeavor to achieve the more rapid working of deep-sea tonnage, small craft of all kinds were pressed into coastwise and distributive services, particularly on the Norwegian coast (see 1, b, i (3) above). Port turn-round times were improved by moving equipment from port to port to meet changing requirements. Existing port labor was reinforced by foreign workers and prisoners of war and in some cases even by the crews of available ships.

The net effect of this was a great improvement in Germany's shipping position, but it also seems true that the Kaufmann organization came into conflict with other German war administrations and that steps may have been taken to limit its powers. It is known that the responsibility for shipbuilding and repairs in May 1943 was vested in the Main Committee for Shipbuilding (Hauptausschuss Schiffbau) under the jurisdiction of the Reich Ministry of Armament and War Production (The Speer Organization—see chart 6). It is also possible—though direct evidence is lacking—that the whole Reich Commissariat for Ocean Shipping is now subject to the jurisdiction of this ministry.

Chart 6—ADMINISTRATION ORGANIZATION OF OCEAN SHIPPING IN 1944


HITLER
MINISTRY OF TRANSPORT
REICH COMMISSARIAT FOR OCEAN SHIPPING
MINISTRY FOR ARMAMENT AND WAR PRODUCTION
MAIN COMMITTEE for SHIPBUILDING
Secretary of State
Under-secretary of State
B Dept. of ADMINISTRATION and Inland Shipping
S OCEAN TRANSPORT DEPT.
NATIONAL TRANSPORTATION GROUPS
TRANSPORTATION GROUP FOR OCEAN SHIPPING
GERMANY Maritime Depts.
1. General Organization
2. Traffic Planning
3. Overseas Shipping
4. Coastal and Fjord Shipping
5. Ports
6. Equipment
NORWAY Maritime Depts.
1. General Organization
2. Traffic Planning
3. ?
4. Coastal and Fjord Shipping
5. Ports
6. Equipment
MEDITERRANEAN Maritime Depts.
*
1. ?
2. ?
3. ?
4. ?
5. ?
6. ?
Port Commissioners and Port Inspectors
Weser Ports
EMS Ports
Schleswig Holstein Ports
Pomeranian Ports
E. Prussian Ports
Mecklenburg Ports
DANZIG
W. Prussian Ports
Hamburg Ports
Mediterranean Ports
Occupied Territory
Allied Territory
WAR DAMAGE Office for Ocean Shipping
Offices at Different Ports
* Although the organization is believed to be the same as in Germany, it is not known for certain how many of these departments are still operating.
Administrative Channels.
Liaison, but not Administrative Channels.

b. Shipping Administration in Occupied Countries.—At the beginning of the war shipping in the occupied territories was administered by the armed forces, which, as a rule, not only overestimated their own individual requirements, but made little attempt to coordinate their various needs. As a result unnecessarily large blocks of tonnage were requisitioned and withheld from the commercial pool, and commercial services to these territories were extravagantly administered. This same lack of central planning was also evident in the fact that although Germany's tonnage strength was being progressively whittled away, no attempt was made either to speed up the return to service of the growing accumulation of damaged shipping or to initiate even a token replacement program.

Toward the end of 1942, Kaufmann began a reorganization of shipping in occupied countries. He first turned his attention to Norway, which for reasons of strategy and supply was making the largest drain on Germany's existing tonnage resources. Here no less than five separate organizations were competing for tonnage. Kaufmann's first step was to take over the KMD (*Kriegs Marine Dienst*), which had hitherto been maintained by the German Admiralty for the transport of supplies for the German armed forces. In February 1943 he set up a Norwegian Division of the Reichs Commissariat for Shipping (known as the RK-See). Representatives were installed in all important ports and were made responsible for the handling of all cargo vessels including those operating for the *Wehrmacht.* The organization of this office is similar to that of the office in Germany. The following are the notable examples of the work of this organization in its various fields:

(1) *General organization*—centralization of ship management on the Norwegian coast resulting in faster turn-rounds and increased imports and exports;

(2) *Traffic planning*—quick planning to meet special needs, illustrated in the speed at which full-scale ore shipments were resumed from Lulea when that port opened earlier than usual; compulsory ballast voyages for fast vessels engaged in priority trade;

(3) *Coastal and fjord shipping*—continued mobilization of small craft on the Norwegian coast and elsewhere for distributive and coastwise services with a view to reducing the call on deep-sea shipping;

(4) *Ports and equipment*—numerous movements of general and special quayside appliances between ports to meet changing port activities;

(5) *Shipbuilding*—resumption of merchant ship construction in the German yards and the laying down in the autumn of 1942 of the first hulls of a standard design.

In April 1943 steps of a like nature were taken in the Mediterranean and RK-See took over all German and German-controlled tonnage in the Mediterranean. It was formerly under the jurisdiction of OKM (*Oberste Kriegs Marine*). As far as is known the organization was similar to Norway.

c. Wartime Changes in Steamship Lines.—Reports received in January 1943 state that the North German Lloyd and the Hamburg-America lines have been amalgamated to form the new German American Line.

It is also known that in 1941 the Reich transferred to private owners (especially the Essberger line) the stock which it held in some of the most important ocean shipping lines.

No other changes of any importance have been reported.

d. Administration of Shipbuilding.—As pointed out above (4 *a*, *i*, (2)) control of shipbuilding was placed in the hands of the Kaufmann organization, but was later transferred to the Main Committee for Shipbuilding. All shipyards were under the control of this committee and no new construction or repairs could be undertaken without its permission. This regulation applied both to Germany and to occupied countries.

C. The German Merchant Marine at the End of the War.

Any estimate as to the probable size and make-up of the German merchant marine at the end of the war must be very approximate since a great many variables have to be taken into consideration. But although shipbuilding is still being carried on both in Germany and the occupied countries, it is not likely that new tonnage is being produced any faster than old tonnage is lost or worn out. Consequently it is reasonable to assume that the total tonnage in German hands when hostilities cease will not exceed the approximately 6,000,000 GRT which she controls at the present time.

But not all of this tonnage is actually German. Excluding Italian tonnage (estimated to be 504,685 GRT) and Spanish tonnage (estimated to be 24,689 GRT) total tonnage acquired by Germany during the war was 3,307,223 GRT. Details are given in table 7.

If ton-for-ton restoration were required, the German merchant marine would be not more than 2,700,000 GRT or little more than half its size before the war. If restoration of Italian and Spanish vessels were also made, the total tonnage of the merchant marine would be not more than 2,200,000 GRT.

Furthermore, this merchant marine is almost certain to be very unbalanced in its make-up, with a great shortage of smaller ships. Estimates of the present German merchant marine with a break-down by size of vessel are not available, but it is known that of the 3,191 vessels seized from enemy countries, 2,690 were of less than 2,000 GRT.

Table 7. Tonnage seized by Germany during the war

From	Pass./Cargo		Tankers		Total	
	Number	Tonnage	Number	Tonnage	Number	Tonnage
Western Europe:						
Norway	983	704, 180	40	164, 495	1, 023	868, 675
Denmark	439	439, 477	7	17, 185	446	456, 662
Netherlands	674	371, 235	15	43, 111	689	414, 346
Belgium	87	73, 100			87	73, 100
France	380	264, 856	13	35, 315	393	300, 171
Total	2, 563	1, 852, 848	75	260, 106	2, 638	2, 112, 954
The Mediterranean and Black Sea:						
Greece	174	158, 255	6	11, 716	180	169, 971
Yugoslavia	96	46, 103			96	46, 103
France	200	646, 253	22	101, 339	222	747, 592
Belgium	1	2, 568			1	2, 568
Great Britain	14	73, 904	3	26, 038	17	99, 942
Denmark	14	31, 430			14	31, 430
Netherlands	3	2, 853			3	2, 853
Norway	11	29, 280	6	53, 885	17	83, 165
Russia	3	10, 645			3	10, 645
Total	516	1, 001, 291	37	192, 978	553	1, 194, 269
Grand total	3, 079	2, 854, 139	112	453, 084	3, 191	3, 307, 223

Of the 3,307,223 GRT thus acquired, 1,109,065 GRT were in vessels of this category.

Restoration would deprive Germany of a great many small ships.

Moreover, Germany has worked her smaller vessels heavily so that wear and tear and losses in this category have been proportionately great, whereas many of her larger vessels have been laid up after being carefully camouflaged and may have escaped damage.

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Bulletin of the Hamburg World's Economics Archives 1937–1939. (Contain much detailed information on the importance of German shipping to the economic life in Germany. Several articles deal with the building program, balance sheets of German shipping companies, business results of German yards, and shipping companies.)

Schiffbau und Werft Reederei Hafen. (An official or semiofficial magazine devoted to the interests of maritime and inland ports, shipping, and shipbuilding yards.)

Groner. *Handelsflotten Taschenbuch 1940.* (Published every year; the 1940 handbook is the last one available in this country. It contains the names of all vessels under German flag, the main shipowners and their vessels with home port, year of building, and tonnage capacity.)

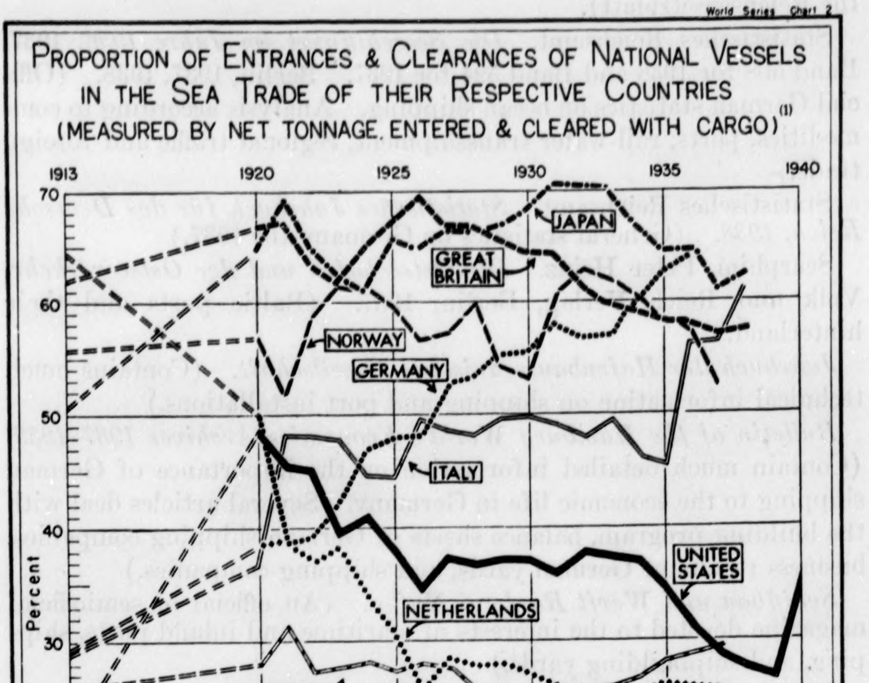
Oberkommando der Kriegsmarine, Mansen, G. V. *Nauticus, Jahrbuch für Deutschland's Seeinteressen 1936 to 1943.* (Contains several articles emphasizing the importance of the German Navy, merchant marine, and shipbuilding facilities.)

Lloyd's Register of Shipping, London. Published every year. (Contains official data on merchant vessels of the whole world.)

Civil Affairs Guide: *German Public Property.* (Contains discussion of the status of public property.)

Schiffahrt, Schiffbau, Hafenbau. *Deutsche Schiffahrtszeitschrift "Hansa,"* Berlin. Published weekly. (Contains much valuable material on ocean shipping, traffic, building, and also technical information.)

Annex A



PROPORTION OF ENTRANCES & CLEARANCES OF NATIONAL VESSELS IN THE SEA TRADE OF THEIR RESPECTIVE COUNTRIES (MEASURED BY NET TONNAGE, ENTERED & CLEARED WITH CARGO) (1)

(1) Except Japan, figures for which cover all entrances and clearances.

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FROM: GE WORLD SERIES CHART 2 JAN. 15, 1943

Annex B. Germany, principal German steamship services before the war

Steamship line	Destination	Number of ships	Approximate G. N. T. in 1,000 T.	Type of service	Remarks
	UNITED STATES				
Hamburg-America	New York City	5	105	Weekly, passenger and freight.	Joint service with North German Lloyd.
	Gulf ports	5	25	Monthly, combined passenger and freight.	
	North Atlantic ports and Gulf ports.	6	30	Monthly, freight with limited passenger accommodations.	
	Pacific ports via Panama Canal.	5	37	Fortnightly, combined passenger and freight.	Also to west coast ports of Central America; joint service with North German Lloyd.
North German Lloyd	New York City	3	130	Weekly, combined passenger and freight.	Joint service with Hapag.
	Gulf ports	6	30	Monthly, freight service.	
	North Atlantic ports and Gulf ports.	8	40	Monthly, combined passenger and freight.	
	Pacific ports via Caribbean ports, Canal Zone, west coasts of Central America and Mexico.	7	49	Fortnightly	Joint service with Hapag.
Transocean Transport	Gulf ports	5	27	Monthly, combined passenger and freight.	
Urag (Unterweser Reederei A. G.).	Gulf ports (see remarks)	4	20	Monthly	Part of triangular route Germany-Norway-United States.
	CENTRAL AND CARIBBEAN AMERICA				
Hamburg-America	Cuba and Mexico	2	19	Monthly, combined passenger and freight.	

Annex B. Germany, principal German steamship services before the war—Continued

Steamship line	Destination	Number of ships	Approximate G. N. T. in 1,000 T.	Type of service	Remarks
	CENTRAL AND CARIBBEAN AMERICA—continued				
Hamburh-America	North coast of South America, Canal Zone, Limon, Puerto Barrios.	2	24	Monthly, combined passenger and freight.	
	Panama Canal and west coast of Central America (see remarks).	5		Fortnightly, combined passenger and freight.	Ports of call en route to Pacific ports; joint service with North German Lloyd.
North German Lloyd	Cuba and Mexico	4	13	Monthly, freight	
	Caribbean ports, Canal Zone and west coasts of Central America and Mexico (see remarks).	7		Fortnightly	Ports of call en route to Pacific ports; joint service with Hapag.
Horn	North coast of South America	4	16	Fortnightly, combined passenger and freight.	
	Caribbean ports	4	12	Monthly freight service	
	SOUTH AMERICA				
Hamburg-South America	East coast	9	117	Weekly, combined passenger and freight.	Ports of call in Spain and Portugal en route.
Papag-Lloyd (joint service).	West coast via Canal Zone	10	56	Weekly, combined passenger and freight.	
	West coast via Strait of Magellan.	4	22	Every 7 weeks, combined passenger and freight.	
	EUROPE				
Hamburg-London	England				Other small lines operated in this trade; several of the larger lines made intermediate calls at British ports.

Argo Reederei Richard Adler & Co.	England		42		
Neptun	Baltic		71		Other lines in similar service.
Urag	Norway (see remarks)	4		Monthly	Part of triangular route Germany-Norway-United States.
Hamburg-South America	Spain and Portugal (see remarks).	9		Weekly, combined passenger and freight.	Ports of call en route to east coast of South America.
	AFRICA				
German-Africa	Western route around Africa	4	32	Monthly, combined passenger and freight.	
	Eastern route around Africa	3	25	Combined passenger and freight.	
	Mozambique	2	33	Monthly, express, combined passenger and freight.	Service calls at Lourenço Marques.
Laersz	West Africa	5	17	Weekly, refrigerator service	
North German Lloyd	Canary Islands	3	9	Fortnightly, freight	
	NEAR EAST AND FAR EAST				
Attas Levant	East Mediterranean	12	68	Freight	
Hansa	India		268(total fleet)	3 times a month	
	Persian Gulf			Fortnightly	
Hamburg-America	Netherlands East Indies	6	39	Every 18 days, freight	
Hapag-Lloyd (joint service).	Japan, via Strait of Malacca, N. E. I., and Manila.	10	85	3 times a month, freight	
Hamburg-America	Japan, via Singapore, Hong Kong, etc.	10	65	Fortnightly, freight	
North German Lloyd	Japan, via Strait of Malacca, Manila, etc.	3	54	Monthly, express, combined passenger and freight.	
Rickmers	Far East	7	35	Monthly, freight	
Hamburg-America	Australia via Cape of Good Hope.	4	29	Monthly, freight	
North German Lloyd	Australia via Cape of Good Hope.	3	25	Freight	

Annex C. Total sea-borne cargoes inbound to Germany ([illegible]mmodities and foreign origin (year 1936–metric tons)

Commodities	Total	Scandinavia and Baltic Range including Arctic Russia	Great Britain-Holland-Spain Range	South America Range	Mediterranean and Black Sea Range	United States and Canada Range	Central America and Mexico Range	West Africa Range	South and East Africa Range	Far East Range	Australasia Range	India Range
Fish and products	298, 584	149, 087	145, 343	18	314	2, 091	50	239	30	1, 411	1	----------
Meat and dairy products	178, 814	122, 053	8, 702	40, 524	26	176	----------	1	----------	7, 332	----------	----------
Grains	877, 751	42, 628	53, 414	390, 102	202, 369	54, 626	8, 690	1, 694	255	113, 202	3, 153	7, 618
Fruits and vegetables	588, 606	13, 186	189, 353	47, 619	179, 847	31, 114	16, 377	100, 535	1, 659	236	7, 130	1, 550
Oil seeds and oil fruits	1, 213, 285	7, 911	29, 501	98, 474	35, 675	111	985	279, 150	24, 843	583, 242	7, 969	145, 424
Coffee	231, 713	159	12, 774	128, 863	45	9, 090	68, 389	3, 515	3, 763	3, 671	----------	1, 444
Animal and vegetable fats and oils	338, 128	155, 494	72, 177	20, 623	6, 019	5, 410	1	24. 483	33	51, 082	362	2, 444
Brans and meals	105, 907	2, 589	21, 097	66, 943	15, 177	----------	----------	----------	----------	----------	101	----------
Oil cake	294, 059	25, 823	26, 497	104, 981	39, 277	26, 307	3, 249	120	733	26, 398	----------	40, 674
Fodder	121, 091	66, 303	23, 809	5, 487	1, 144	1, 114	554	4, 003	119	17, 315	1	1, 242
Animal, vegetable raw material, N. E. S	487, 717	64, 564	150, 017	32, 324	43, 819	69, 034	16, 876	5, 876	4, 827	68, 092	1, 067	31, 221
Ores, iron and manganese	4, 475, 957	3, 970, 815	108, 594	2, 762	331, 240	12, 217	20	17, 853	12, 778	5, 127	----------	14, 551
Pyrites	411, 488	181, 931	104, 778	----------	124, 643	136	----------	----------	----------	----------	----------	----------
Other ores	427, 536	136, 804	79, 674	33, 398	87, 762	7, 643	14, 169	5, 516	1, 004	26, 036	25, 228	10, 302
Coal and coke	4, 152, 387	43, 580	4, 104, 416	----------	4, 202	5	----------	----------	83	101	----------	----------
Petroleum and products	3, 745, 480	11, 614	196, 213	97, 624	994, 460	827, 976	1, 528, 816	9	----------	56, 542	----------	32, 226
Stones, gravel, and sand	647, 308	134, 314	508, 271	105	4, 240	246	100	1	19	----------	----------	12
Bauxite, cryolite, and clay	117, 672	3, 728	16, 309	----------	97, 630	5	----------	----------	----------	----------	----------	----------
Other minerals	944, 282	114, 956	64, 414	1, 201	224, 925	463, 167	48, 882	1	5, 648	14, 411	3, 750	2, 927
Chemicals	233, 155	46, 855	71, 607	64, 005	16, 747	22, 001	172	31	5, 245	5, 329	120	1, 043
Fertilizers	592, 538	10, 483	360, 506	174, 447	15, 500	30, 363	----------	----------	----------	----------	----------	1, 239
Hides and skins	185, 939	20, 467	26, 298	88, 876	10, 168	6, 396	10, 863	1, 425	4, 534	3, 655	1, 758	11, 499
Wool, cotton, and products	936, 015	26, 682	134, 388	123, 967	61, 719	237, 067	15, 162	9, 605	39, 989	43, 673	25, 841	217, 922
Lumber	1, 235, 680	881, 382	49, 183	8, 257	20, 413	85, 421	6, 647	175, 787	281	7, 476	562	271
Pulpwood	772, 394	758, 966	----------	----------	----------	13, 428	----------	----------	----------	----------	----------	----------
Chemical pulp	223, 058	200, 006	20, 976	----------	262	1, 801	----------	----------	----------	----------	----------	13
Copper, zinc, and lead	348, 444	52, 165	92, 753	21, 830	13, 345	80, 100	16, 261	18, 792	36, 455	7, 109	8, 740	894
Miscellaneous	1, 342, 563	445, 954	479, 034	48, 564	90, 958	74, 077	26, 558	101, 385	13, 175	34. 799	3, 600	24, 459
Total 1936	25, 527, 551	7, 690, 499	7, 150, 098	1, 600, 994	2, 621, 926	2, 061, 122	1, 782, 821	750, 021	155, 473	1, 076, 239	89, 383	548, 975
Total 1937	29, 822. 360	8, 242, 105	8, 383, 409	2, 485, 935	2, 880, 031	2, 474, 162	2, 102. 032	820, 578	248. 545	1, 305, 160	124. 359	756. 044

Annex D. Total sea-borne cargoes outbound from Germany by commodities and foreign destination (year 1936–metric tons)

Commodities	Total	Scandinavia and Baltic Range including Arctic Russia	Great Britain-Holland-Spain Range	South America Range	Mediterranean and Black Sea Range	United States and Canada Range	Central America and Mexico Range	West Africa Range	South and East Africa Range	Far East Range	Australasia Range	India Range
Fish, meat and dairy products	74, 746	4, 361	32, 908	3, 279	2, 601	16, 153	1, 474	8, 104	530	4, 146	599	591
Grain	1, 080, 879	119, 318	930, 814	2, 262	2, 195	6, 730	6, 260	4, 412	130	8, 692	2	64
Fruits and vegetables	101, 425	45, 301	40, 169	8, 149	4, 125	2, 351	919	265	118	----------	8	20
Animal and vegetable fats and oils	101, 503	13, 394	63, 148	1, 472	4, 027	16, 905	1, 028	289	224	504	365	147
Flour	162, 390	9, 459	143, 754	22	6, 132	12	52	2, 821	130	7	1	----------
Sugar	276, 652	33, 320	186, 163	7, 130	36, 178	672	2	4, 872	560	4, 443	----------	3, 312
Alcohol and beverages	50, 860	2, 265	13, 582	549	2, 015	7, 488	1, 292	13, 371	1, 637	3, 998	79	4, 584
Oil cake	257, 938	243, 621	14, 297	1	----------	19	----------	----------	----------	----------	----------	----------
Coal and coke	5, 256, 485	2, 778, 173	173, 714	300, 312	1, 609, 026	293, 870	30, 969	14, 107	34, 057	3, 111	19	19, 127
Petroleum and products	425, 445	143, 286	182, 215	2, 619	13, 841	9, 914	2, 350	3, 325	46, 175	1, 487	3, 953	16, 280
Cement	254, 840	17, 467	9, 957	86, 834	5, 366	13, 359	60, 877	29, 647	4, 192	8, 013	10	19, 118
Salt	300, 695	187, 250	16, 773	571	127	882	1, 257	10, 081	864	36, 065	103	46, 722
Chemicals	576, 940	247, 296	122, 424	29, 722	30, 352	91, 287	8, 703	3, 102	5, 097	22, 735	3, 896	12, 326
Fertilizers	1, 220, 186	349, 247	196, 836	33, 328	30, 163	337, 812	20, 439	2, 598	7, 518	232, 943	5, 065	4, 237
Wood and products	286, 153	27, 679	125, 135	15, 244	8, 129	9, 203	2, 439	12, 341	46, 171	11, 326	4, 635	23, 851
Chemical pulp	317, 979	1, 657	118, 528	29, 110	8, 976	122, 057	11, 080	----------	257	25, 950	56	308
Cardboard and paper	523, 721	13, 622	160, 518	58, 412	24, 749	69, 125	12, 883	3, 882	14, 506	109, 074	12, 543	44, 407
Glasswares	175, 141	23, 426	67, 369	19, 779	8, 737	19, 498	5, 580	2, 170	7, 106	8, 557	3, 295	9, 624
Iron and steel and products	1, 861, 584	685, 361	176, 973	324, 960	156, 022	75, 533	68, 279	23, 610	47, 676	183, 779	9, 854	109, 537
Copper, zinc, alloys and products	167, 055	40, 601	47, 131	15, 043	22, 248	5, 647	1, 998	577	3, 370	10, 894	1, 167	18, 379
Vehicles	63, 582	17, 475	2, 225	12, 622	2, 974	611	2, 486	2, 185	10, 833	8, 516	594	3, 061
Industrial products, N. E. S	255, 376	68, 751	59, 263	24, 052	14, 427	38, 436	8, 501	10, 835	5, 633	12, 054	2, 384	11, 040
Miscellaneous	1, 366, 640	519, 602	493, 778	63, 725	64, 834	139, 902	19, 350	8, 789	10, 613	22, 624	6, 370	17. 053
Total 1936	15. 158, 215	5, 591, 932	3, 377, 674	1, 039, 197	2, 057, 244	1, 277, 466	268, 218	161, 383	247, 397	718, 918	54, 998	363, 788
Total 1937	18, 001, 102	6, 487, 581	4, 074, 583	1, 031, 917	2, 728, 390	1, 508, 930	342, 247	256, 784	253, 206	871, 111	68, 289	378, 064

Annex E. Coastwise traffic between German ports during 1936

[In thousands of metric tons]

From—	Total	To—(1)	(2)	(3)	(4)	(5)	(6)	(7)	(9)	(10)	(11)	(12)	(16)	(17)	(18)
1 East Prussia ports	549	----	89	5	----	19	13	137	89	31	41	32	14	----	79
2 Stettin	2, 125	1, 706	----	52	8	27	67	69	78	7	41	10	----	4	56
3 Other Pomerania ports	614	68	193	7	9	4	3	29	101	35	34	24	5	13	89
4 Mecklenburg	95	----	2	1	1	5	3	11	22	13	7	6	5	4	15
5 Lübeck	113	47	15	13	10	----	16	----	1	1	----	8	----	1	1
6 Schleswig-Holstein, Baltic	260	4	12	8	26	6	30	32	18	1	----	102	2	3	16
7 Hamburg	1, 374	327	161	49	40	----	43	----	325	56	35	98	----	26	214
9 Bremen	683	197	28	11	2	----	11	169	----	2	----	239	----	----	24
10 Oldenburg	247	199	3	----	----	----	2	16	1	15	1	9	----	----	1
11 Ems ports	2, 861	132	1, 005	15	----	399	156	770	----	3	----	380	1	----	----
12 Other North Sea ports	359	20	23	62	10	4	9	34	29	21	5	123	1	6	12
16 Elbe Oder ports	100	18	----	8	5	----	----	----	----	2	3	17	----	19	28
17 Northwest Germany ports	191	1	4	6	2	3	22	52	----	1	----	65	35	----	----
18 Rhine district	731	173	76	36	18	17	24	270	15	----	----	36	66	----	----
Total	10, 302	2, 892	1, 611	273	131	484	399	1, 589	679	188	167	1, 149	129	76	535

Annex F. Income from ocean shipping (in RM millions)[1]

Year	Income from—								Expenditure in foreign P.	Net "known" income
	Freight—foreign and German goods	Passengers			Miscellaneous receipts from —[2]			Total receipts		
		Foreign	German	Total	Foreigners	Germans	Total			
	1	2	3	4	5	6	7	8	9	10
1926	563	95	--------	95	38	--------	38	696	311	385
1927	685	135	--------	135	44	--------	44	864	386	478
1928	734	153	--------	153	45	--------	45	932	417	515
1929	760	179	--------	179	47	--------	47	986	441	545
1930	624	210	--------	210	39	--------	39	874	391	482
1931	494	155	--------	155	31	--------	31	680	305	375
1932	350	113	--------	113	14	--------	14	477	237	240
1933	321	75	--------	75	11	--------	11	407	214	193
1934	319	56	27	83	15	--------	15	417	193	224
1935	341	64	34	98	7	--------	7	446	202	244
1936	410	73	38	111	12	18	30	550	215	335
1937	550	78	38–41	116–119	19	26	45	711–714	261	450–53

[1] Sources: "Zahlungsbilanz der Seeschiffahrt," Wirtschaft und Statistik 1933, 1935, 1936, 1937, 1938.

[2] Charter money, salvage money, etc.

NOTE.—For technical reasons of accounting, more specifically diversified methods of evaluating merchandise, imports, and exports in the official trade statistics, receipts from the shipment of German as well as foreign goods in German ships appear in the balance of payments. Recorded merchandise values (c. i. f.) include shipping costs while merchandise export values (f. o. b.) do not. Hence, an additional credit must be carried for shipping earnings from foreigners when German goods are exported on German boats. In the case of imports of foreign goods on German boats, an additional credit must also be entered on the balance to offset the shipping costs debited with the merchandise import item. For goods carried on foreign boats no accounting adjustments are necessary. Payments to foreigners for transporting imports and expenditures of foreigners for German export goods carried on foreign boats obviously need not appear in the German balance of payments. Thus, freight receipts, as recorded in the balance of payments, include payments from nationals as well as from foreigners for the overseas shipment of goods in German boats (see column 1).

The figures in columns 1, 2, and 5 appear in the German balance of payments; thus, complete series for the period 1926–38 are available. To derive annual gross shipping income, passenger earnings and miscellaneous receipts from nationals must be added to the sum of these three items. Since the former figures were available for only a few years, net shipping income as it appears in column 10 is apparently a minimum figure—at least for the years preceding 1936.

Annex G. Breakdown of the German merchant marine in 1938, by type of vessels

	Number	GRT
Vessels over 100 GRT:[1]		
Steamships	1,438	3,094,149
Motorships	351	828,830
Sailing vessels with and without motors	441	84,516
Barges	160	51,940
Total ships of more than 100 GRT	2,390	4,059,435
A. Steamships over 100 GRT:		
Passenger and cargo vessels:		
Over 20,000 GRT	8	248,234
10,000 to 20,000 GRT	17	255,076
1,000 to 10,000 GRT	63	352,040
Cargo vessels:		
6,000 to 10,000 GRT	71	518,515
3,000 to 6,000 GRT	157	716,646
1,600 to 3,000 GRT	171	382,583
1,000 to 1,600 GRT	123	164,691
100 to 1,000 GRT	346	218,687
Tankers:		
Over 1,000 GRT	6	27,334
100 to 1,000 GRT	9	5,017
Whaler-tenders	4	55,506
Whalers	30	9,815
Fishing craft	359	106,062
Tugs and salvage vessels	61	10,918
Icebreakers	6	3,455
Cable ships	2	8,737
Train ferries	5	10,833
Total for 1938	1,438	3,094,149
Total for 1937	1,937	2,943,979
B. Motorships over 100 GRT:		
Passenger and cargo vessels:		
10,000 to 20,000 GRT	9	124,177
1,000 to 10,000 GRT	38	229,590
Cargo vessels:		
6,000 to 10,000 GRT	25	177,196
3,000 to 6,000 GRT	28	119,115
1,600 to 3,000 GRT	8	18,326
1,000 to 1,600 GRT	19	22,799
100 to 1,000 GRT	186	39,257
Tankers:		
Over 1,000 GRT	17	90,639
100 to 1,000 GRT	8	3,810
Fishing vessels	10	2,916
Tugs and salvage vessels	3	1,005
Total for 1938	351	828,830
Total for 1937	301	741,410

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[1] These figures, from the Germanischer Lloyd, do not exactly agree with figures from other equally reliable sources, but are given because they afford the most complete breakdown available.

Annex G. Breakdown of the German merchant marine in 1938, by type of vessels—Continued

	Number	GRT
C. Sailing vessels with or without motors, over 100 GRT:		
Cargo vessels:		
Without auxiliary motor, over 1,000 GRT	3	8, 519
With auxiliary motor, over 1,000 GRT	2	5, 399
School-training ships without auxiliary motors	3	5, 370
Fishing vessels:		
Steamlugger	61	9, 275
Motorlugger	105	16, 187
Other sailing vessels:		
Without auxiliary motors	2	427
With auxiliary motor	265	39, 339
Total for 1938	441	84, 516
Total for 1937	434	81, 943
D. Barges:		
Tank barges	14	5, 514
Barges without motor	112	41, 901
Barges with auxiliary motor (sail, motor)	34	4, 525
Total for 1938	160	51, 940
Total for 1937	160	52, 314

Annex H. Germany: Merchant tonnage completed in German yards, 1929, 1937

Year	Seagoing		River craft		Total		North Sea Yards		Baltic Yards		Inland	
	Nos.	G. R. Tons	Nos.	G. R. Tons	Nos.	G. R. Tons	Nos.	G. R. Tons	Nos.	G. R. Tons	Nos.	G. R. Tons
FOR GERMAN ACCOUNT												
Totals all types												
1929	59	22, 184	198	31, 181	257	252, 765	93	208, 202	49	27, 275	115	17, 288
1937	151	181, 199	252	46, 763	403	228, 962	117	133, 994	34	47, 699	252	47, 269
Steamships												
1929	45	152, 757	9	1, 915	54	154, 672	33	138, 844	13	14, 013	8	1, 815
1937	59	100, 330	6	2, 901	65	103, 231	47	72, 414	12	30, 559	6	258
Motorships												
1929	59	100, 330	6	2, 901	65	103, 231	47	72, 414	12	30, 559	6	258
1937	64	75, 386	110	27, 579	174	102, 965	50	58, 427	13	15, 315	111	29, 223
Miscellaneous												
1929	1	334	112	19, 445	113	19, 779	38	7, 991	19	3, 023	56	8, 765
1937	28	6, 483	136	16, 283	164	22, 766	20	3, 153	9	1, 825	135	17, 788

FOR FOREIGN ACCOUNT

						Totals all types						
1929	46	136, 024	293	31, 187	339	167, 211	67	52, 968	81	100, 917	191	13, 326
1937	53	218, 192	36	8, 300	89	226, 492	56	180, 187	11	41, 058	22	5, 247
						Steamships						
1929	19	14, 796	11	1, 985	30	51, 227	19	22, 601	8	27, 746	3	880
1937	1	2, 149	-----	-----	1	2, 149	-----	-----	1	2, 149	-----	-----
						Motorships						
1929	23	85, 888	46	8, 338	69	94, 226	21	25, 954	16	63, 432	32	4, 840
1937	40	214, 673	23	4, 679	63	219, 352	43	178, 698	5	38, 159	15	2, 495
						Miscellaneous						
1929	4	894	236	20, 864	240	21, 758	27	4, 413	57	9, 739	156	7, 606
1937	12	1, 370	13	3, 621	25	4, 991	13	1, 489	5	750	7	2, 752

Annex I. Source of supply of manpower

A. Maritime states and port towns B. States and cities in the interior	Seamen per 100,000 inhabitants	Nautical students	
		Students 1923-31	Students per 100,000 inhabitants
A			
East Prussia	74.9	419	18.1
West Prussia—Posen	26.4	228	68.6
Pommern	154.3	759	40.4
Mecklenburg	144.2	264	33.7
Schleswig-Holstein	275.3	1,790	129.8
Hannover	222.5	2,142	69.1
Oldenburg	431.3	538	115.2
Lubeck (city)	278.9	121	91.0
Hamburg (state)	303.5	889	69.7
Bremen	676.6	288	85.0
B			
Berlin	18.7	267	6.6
Brandenburg	23.2	187	7.2
Schlesien	21.1	182	4.0
Sachsen	29.8	164	4.9
Westphalen	16.3	257	5.4
Hessen-Nassau		54	2.2
Rheinland		209	2.9
Bayern (Pfalz and Saargebiet)	13.8	156	2.1
Sachsen (state)	13.8	216	3.3
Wurttenberg	6.5	43	1.7
Baden	16.4	64	2.8
Thuringen	34.5	81	5.0
Hessen	10.4	52	3.8
Braunschweig	80.0	57	11.4
Anhalt		30	8.5
Lippe		72	34.1

Annex J. Pay rates in the German merchant marine

Pay rates for all personnel except wireless operators employed in seagoing merchant ships of over 100 GRT other than tugs, lighters, and salvage vessels were fixed by the Collective Regulation (*Tarifordnung*) of December 1934 (with certain amendments) issued under the National Labor Regulation Act of 20 January 1934. Except for a few modifications regarding supplementary conditions, these regulations maintained the wage scales established by national collective agreements in 1932. These rates and other conditions were still in force in the summer of 1936. They are given below.

TABLE 1.—*Masters (vessels over 100 GRT)*

[Minimum monthly rates in RM, with subsistence]

Mechanically propelled vessels:	
Ocean trade and extended home trade	550
North Sea and Baltic trade	480
101–400 GRT all trades	400
401–800 GRT all trades	455
Sailing vessels:	
101–500 GRT	400
501–1,000 GRT	480
1,001 GRT and over	550

The salary of masters was left to be settled by agreement between the shipowner and the master, but whatever the method of fixing the salary (whether by lump sum payments only or also by a commission on profits or turnover) the amounts actually paid could not be less per month than those given above. Extra allowances for seniority or special trades were a matter for agreement between the parties.

TABLE 2.—*Deck and Engineers Officers (ships over 100 GRT)*

[Standard monthly rates in RM, with subsistence]

	Ocean trade	Trade to Great Britain and Ireland	North Sea and Baltic traffic	Vessels of from 101–400 GRT in all trades
Chief mate	300	290	240	190
2d mate	245	230	180	152
3d mate	185	175	142	------
4th mate	140	130	------	------
Chief engineer	450	425	330	240
2d engineer	300	290	240	180
3d engineer	245	230	180	------
4th engineer	185	175	------	------

One mate only—240.

One engineer only—245.

(1) Lump sum for assistant engineers: 24 RM per month

(2) Monthly allowance for clothes (engineers on merchanically propelled vessels): up to 1,500 GRT, 25 RM; over 1,500 GRT, 30 RM.

(3) Supplement for wireless service: on vessels with wireless personnel, 30 RM per month; on vessels without wireless personnel, 65 RM per month.

(4) Overtime: ship's officers employed on vessels in North Sea and Baltic trades, and in trade to Great Britain and Ireland, if required to work in port more than 30 hours per month in excess of normal hours of work in port, are entitled to extra pay as follows:

(a) 1 RM. per hour or

(b) a monthly lump sum payment calculated as follows:

30 to 50 hours' overtime—10 percent of monthly salary.
50 to 60 hours' overtime—15 percent of monthly salary.
60 to 70 hours' overtime—20 percent of monthly salary.
70 and over hours' overtime—25 percent of monthly salary.

The competent Labor Trustee could decide to apply these rules to similar trades to those specified above.

TABLE 3.—*Subordinate Deck and Engine-room Staff (ships over 100 GRT)*

[Standard monthly rates in RM., with subsistence]

Deck:

1st boatswain, 1st carpenter	124
2d boatswain, 2d carpenter	110
Only boatswain, only carpenter	124
Sailmaker	110
Helmsman	110
A. B	103
O. S	50
Light hand	35
Boy	25

TABLE 3.—*Subordinate Deck and Engine-room Staff (ships over 100 GRT)*—Con.

Engine-room:[1]

Electrician: as 4th engineer, assistant engineers and assistant electricians with at least 1 year's service as assistant	119
Assistant engineer and assistant electrician with less service	95
Petty officers-storekeeper, leading fireman, greaser, donkeyman	119
Fireman	113
Experienced cleaners on motor vessels	104
Inexperienced cleaners on motor vessels	90
Trimmer	96

(1) Allowance for boiler scaling and other cleaning work: 2.80 RM. a day.

(2) Monthly allowance for clothes on mechanically propelled vessels:

Subordinate engine-room staff—Up to 1,500 GRT	15 RM.
Subordinate engine-room staff—Over 1,500 GRT	20 RM.

(3) Monthly allowance for carpenter using his own tools: 7 RM.

(4) Overtime:

Skilled ratings	0.72 RM.
Unskilled ratings	.42 RM. (excluding boys).
Boys	.25 RM.

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[1] If two electricians are carried, the first is to be paid at the same rate as the 3d engineer, the second at the rate of the 4th engineer.

TABLE 4.—*Steward Staff (ships over 100 GRT), General Scale*

[Standard monthly rates in RM, with subsistence]

Cook	124
1st steward, 1–4 years	97
5–8 years	106
9 years and more	124
Steward, passenger vessels in North Sea & Baltic trade	97
Cabin steward, cargo vessels, and only steward	93
Trained butcher and baker, serving as such or as cook's mate	89
Cook's mate with previous sea service	74
Cook's mate, without such service	57
Mess steward	50
Mess boys	25

(1) Overtime rates (per month):	*Under 15 men in crew*	*15 men and over in crew*
Stewards, cargo vessels (excluding young hands)	9. 50	11. 50
Cooks, cargo vessels (excluding young hands)	23. 00	31. 00
Cook's mates (with sea experience) including trained bakers and butchers serving as such (cargo vessels)	14. 25	19. 00

(2) Extra allowance for cooks on baking days: 1.40 a day.

TABLE 5.—*Steward Staff (ships over 100 GRT)—Special scale for passenger trade*

[Monthly wages and lump sum allowances in RM, with subsistence]

	1-4 years	5-8 years	9th and following years
Purser	280	320	365
Chief Steward:			
On 1st class	184	210	235
On 2d class	161	170	183
On 3d class	143	161	180
Assistant chief steward	155	165	185
Laundry steward	152	163	173
1st steward	120	133	145
Chief cook	312	365	430

Second purser, 1–2 years	188
3d and following years	220
Assistant purser, 1st year	113
2–3 years	126
4th and following years	140
Assistant chief cook, 1–6 years	225–300

General supplementary conditions:

(1) If a steamship or motor vessel had not called at a German port for loading or discharge for 18 months, the members of the crew were entitled to 20 percent increase in wages from the commencement of the 19th month of service. The above period of 18 months could not be interrupted by a call for repairs at the vessel's home port, or any other German port, not exceeding 5 days.

(2) German members of the crew serving on vessels in auxiliary lines trading between non-European ports and carrying goods or passengers transshipped to or from German oversea liners or foreign liners belonging to the same "pool", were entitled to a 20 percent increase in wages commencing from the fourth month.

(3) If a vessel were detained at its home port for at least 14 days without the date of sailing having been fixed, members of the crew were entitled to their ordinary wages, and to a subsistence allowance of 1.50 RM. per day, after a further period of 14 days, provided that at least 75 percent of the deck and engine-room staff and 25 percent of the catering staff were retained on board.

(4) On vessels with a crew numbering from 10 to 15, cooks were entitled to an extra 10 percent if no cook's mate is carried.

(5) Extra pay and special clothing at the owner's expense were to be provided for members of the engine-room staff engaged in the cleaning of interior boiler surfaces and furnaces and oil tanks and oil bilges.

(6) Insurance of crew's effects: members of the crew were to be insured at the owner's expense against total or partial loss of effects resulting from loss of ship, stranding, or other casualty.

(7) Subsistence allowance during annual leave, and if meals were not provided on board in port: 2.80 RM. a day.

Annex K. Daily vessel expenses of various class ships operated by the Hamburg-America line during 1936

Vessel particulars	Steamships (oil burners)			Steamships (coal burners)					Motorships			
	"Hansa"	"Kurmark"	"Tacoma"	"Amasis"	"Bitterfeld"	"Dortmund"	"Feodosia"	"Haverstein"	"Caribia"	"Milwaukee"	"Burgenland"	"Seattle"
Year built	1923	1930	1930	1923	1930	1926	1922	1921	1933	1929	1928	1928
Gross tonnage	21, 131	7, 021	8, 268	7, 129	7, 659	5, 138	3, 075	7, 974	12, 049	16, 624	7, 320	7, 369
Passenger capacity	966	----	49	24	----	----	6	----	386	559	24	48
Horsepower	23, 000	6, 200	6, 200	4, 000	6, 200	2, 800	1, 550	3, 700	12, 200	13, 000	5, 350	5, 700
Speed	19	13	14	12	13	12	9½	9	17	15	12½	13½
Fuel consumption in tons:												
Sea	194	44	53	45	70	43	21	40	43	42	19	23
Port	30	4	4	9	6	8	5	9	3	4	2	2
Number of crew, deck and engine department	130	38	48	42	62	41	30	40	70	113	39	41
Stewards department	229	6	21	14	8	6	5	5	129	251	18	22
Expenses (*Reichmarks*)	*Reichmarks*	*Reichmarks*	*Reichmarks*	*Reichmarks*	*Reichmarks*	*Reichmarks*	*Reichmarks*	*Reichmarks*	*Reichmarks*	*Reichmarks*	*Reichmarks*	*Reichmarks*
Equipment	261	69	99	87	91	71	42	71	206	344	114	108
Repair reserve	570	95	145	123	105	100	55	90	270	555	155	140
Insurance	600	122	171	59	158	52	28	46	339	473	114	146
Communications	50	12	23	11	13	11	9	10	54	49	23	23
Wages:												
Deck and engine department	825	260	314	268	364	264	215	264	503	738	284	306
Other	1, 368	35	131	84	40	34	21	21	769	1, 492	109	130
Other crew expense including subsistence	522	63	87	90	80	62	55	67	325	510	87	96
Total working expense [1]	4, 196	656	970	722	851	594	425	569	2, 466	4, 161	886	949
Interest	1, 026	308	360	69	354	129	76	124	707	627	197	216
Depreciation	3, 312	527	782	413	605	304	161	287	1, 643	2, 326	538	589
Government subsidy	872	252	307	265	289	198	124	278	492	696	270	279

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[1] Total vessel expenses are not available. Data on cost of fuel, port charges, wharfage and dockage, stevedoring and other cargo expense are necessary for determining the total charges. The above table, however, gives some idea of the fixed charges as set up by the operators.

Annex L. Leading German steamship companies, approximate number of ships and GRT in 1939, home port, and personnel employed

German shipping lines after the reorganization of 1936 (privately owned)—	Name of former lines	Home port	Approximate number of vessels	Approximate GRT (1939)	Personnel employed (1938)
Argo Reederei, Richard Adler & Co.		Bremen	25	40,000	
Atlas Levante Line, Deutsche Levante Line, G. m. b. H.		Bremen	12	53,000	626
Atlas Line		Emden	7	40,000	
Deutsche Africa Line	Woermann Lines German East Africa Line.	Hamburg Hamburg	18	158,000	2,647
John T. Essberger, Hamburg (Tankers)		Hamburg		70,000	
Hamburg-America Line		Hamburg	101	715,000	13,022
Hamburg-South America Line		Hamburg	48	358,000	6,392
Hansa, Deutsche Dampfschiffahrtsgesellschaft		Bremen	42	286,000	2,867
Hamburg-London Line G. m. b. H		Hamburg			
H. C. Horn, A. G. Line		Hamburg	8	28,000	474
F. Laeisz Line		Hamburg	7	25,000	
Neptun Dampfschiffahrtsgesellschaft		Bremen	7	72,000	1,374
North German Lloyd		Bremen	70	575,000	12,255
Oldenburg-Portuguese Line		Hamburg	19	48,000	748
Rickmers Line		Hamburg	7	37,000	758
Robert M. Sloman, Jr.		Hamburg	18	42,000	
Unterweser Reederei A. G. (Urag)		Bremen	4	34,000	

Annex M. Projected allocation of tonnage for economic supply program E for 1943 (north of Dover)

1. OVERSEA TRAFFIC IN DRY CARGOES AND CONSUMER GOODS

Traffic area	Imports to Germany (l. tons in '000's)	Exports from Germany (l. tons in '000's)	G. R. T. required operating continuously (nearest '000 g. r. t.)
Norway to Germany	4, 459		
Germany to Norway		3, 337	575
Norway to Holland	1, 106		
Holland to Norway		234	119
Norway to Denmark	197		
Denmark to Norway		105	9
Norway to Sweden	335		
Sweden to Norway		42	19
Sweden to Germany	12, 330		
Germany to Sweden		6, 148	778
Sweden to Holland	1, 847		
Holland to Sweden		912	112
Sweden to Denmark	420		25
Sweden to Finland	49		1
Sweden to Belgium	25		2
Finland to Germany	1, 397		
Germany to Finland		2, 320	150
Finland to Holland	150		
Holland to Finland		200	22
Finland to Denmark	196		
Denmark to Finland		88	14
Finland to Belgium	32		3
Latvia to Germany	15		
Germany to Latvia		1, 750	110
Lithuania to Germany	20		
Germany to Lithuania		50	2
Germany to Denmark		2, 240	73
Germany to Estonia		400	17
Holland to Denmark		360	18
Holland to Latvia		100	6
Total	22, 578	18, 286	2, 055

2. OVERSEA TRAFFIC IN BULK OIL

Traffic area	Exports from Germany (l. tons in '000's)	G. R. T. required operating continuously (nearest '000 g. r. t.)
Germany to Norway	580	20
Germany to Denmark	66	2
Germany to Latvia	365	13
Germany to Finland	152	5
Germany to Lithuania	48	1
Total	1, 211	41

Annex M. Project allocation of tonnage for economic supply program E for 1943 (north of Dover)—Continued

3. COASTWISE TRAFFIC

	G. R. T. required operating continuously (nearest '000)	
	Pass/Cargo	Tankers
Germany/Denmark/Holland	350	10
Norway	120	4
Sweden	140	5
Finland	40	1
Total	650	20

Annex O. Distribution of main imports to Germany from Scandinavia

[Estimates for 1943 in thousands of metric tons]

Commodity	Spheres of export				Spheres of import															
					North Sea Zone									Baltic Zone						
	From Norway	From Sweden	From Finland	Total	Antwerp	Rotterdam	Ymuiden	Dolfzyl	Nordenham	Emden	Bremen	Hamburg	Total	Lubeck	Swinemunde	Stettin	Gdynia	Danzig	Konigsberg	Total
Iron ore	2, 500	8, 500		11, 000		1, 050	150			3, 000	1, 500	1, 000	6, 700	600		2, 200	500	1, 000		4, 300
Pyrites	500			500						95		340	435	65						65
Fish	350			350								130	130	105	115					220
Fertilizers	130			130				50		40		40	130							
Timber	110	713	747	1, 570	57	15		210	125	188	25	250	870	145		215	65	140	135	700
Pulp and paper	90	526	155	771		20		170	30	91		150	461	70		110	50	60	20	310
Ilmenite	60			60		15				45			60							
Carbide	30			30								30	30							
Copper, zinc and unwrought metals	39			39								14	14	25						25
Copper concentrates	21			21						12		9	21							
Iron and steel		73		73						15	25	15	55			15		3		18
Aggregates	3, 830	9, 812	902	14, 544	57	1, 100	150	430	155	3, 486	1, 550	1, 978	8, 906	1, 010	115	2, 540	615	1, 203	155	5, 638

Annex P. German-controlled and Swedish tonnage in northern waters (north of the Straits of Dover). Statement of resources and requirements as at 30th Sept. 1943

[Figures in thousand G. R. T.]

Assets	Pass/Cargo	Tanker	Total
German mercantile strength at 3/9/39	2, 734	170	2, 904
Add:			
(*a*) Tonnage since returned to northern waters	115	12	127
(*b*) Tonnage seized in prize	202	48	250
(*c*) Tonnage acquired from subject and satellite nations	2, 427	153	2, 580
(*d*) New construction from 3/9/39 to 30/9/43	827	176	1, 003
(*e*) Swedish mercantile strength at 3/9/39	699	193	892
Total	7, 004	752	7, 756

Liabilities	Pass/Cargo	Tanker	Total
Losses: from 3/9/39 to 30/9/43	1, 823	175	1, 998
Allowances:			
(*a*) Vessels laid up	845	214	-----
(*b*) Tonnage under repair	600	12	-----
(*c*) Military transports	314	-----	-----
(*d*) Naval and other requisitions	1, 100	290	-----
	2, 859	516	3, 375
Requirements:			
Tonnage estimated to be required for economic commitments and military maintenance	2, 705	61	2, 766
Summary of liabilities			
Losses	1, 823	175	1, 998
Allowances	2, 859	516	3, 375
Requirements	2, 705	61	2, 766
Aggregate	7, 387	752	8, 139
Balance being deficiency	383	-----	383
Total	7, 004	752	7, 756

Annex Q. Breakdown of German-owned and controlled tonnage (passenger and cargo types) located north of Straits of Dover as of 30 Sept. 1943

TABLE 1

Size (grt)	German-controlled				German-owned	Total pass./cargo
	Norwegian (grt)	Danish (grt)	Dutch (grt)	Belgian (grt)	German (grt)	
100/499	140, 415	47, 345	108, 960	13, 073	286, 651	596, 444
500/999	69, 825	32, 373	3, 881	6, 529	186, 932	299, 540
1,000/1,999	120, 265	123, 228	11, 421	5, 883	332, 879	593, 676
2,000/2,999	41, 331	87, 725	16, 747	--------	290, 658	436, 461
3,000/3,999	47, 950	6, 236	11, 326	--------	207, 482	272, 994
4,000/4,999	71, 807	23, 263	17, 411	4, 958	211, 831	329, 270
5,000/5,999	84, 783	15, 896	10, 385	--------	280, 996	392, 060
6,000/6,999	12, 728	19, 489	13, 225	--------	114, 585	160, 027
7,000/7,999	28, 809	7, 014	15, 168	7, 340	128, 263	186, 594
8,000/8,999	8, 500	17, 138	25, 507	--------	110, 986	162, 131
9,000/9,999	--------	19, 494	28, 026	--------	37, 431	84, 951
10,000 and over	13, 156	--------	44, 304	13, 761	543, 088	614, 309
Total	639, 569	399, 201	306, 361	51, 544	2, 731, 782	4, 128, 457
Breakdown by fuel types						
Diesel	255, 449	180, 194	143, 209	36, 098	702, 839	1, 317, 789
Oil	57, 570	27, 278	32, 448	--------	409, 674	526, 970
Coal	326, 550	191, 729	130, 704	15, 446	1, 619, 269	2, 283, 698

TABLE 2

Size (g. r. t.)	German controlled			German owned	Total tankers
	Norwegian (g. r. t.)	Danish (g. r. t.)	Dutch (g. r. t.)	German (g. r. t.)	
100/499	4, 712	1, 314	2, 019	2, 066	10, 111
500/999	2, 378	--------	2, 828	9, 329	14, 535
1,000/1,999	1, 202	1, 099	1, 100	8, 414	11, 815
2,000/2,999	2, 184	--------	--------	--------	2, 184
3,000/3,999	3, 941	--------	--------	7, 232	11, 173
4,000/4,999	--------	--------	--------	--------	--------
5,000/5,999	11, 188	--------	--------	11, 402	22, 590
6,000/6,999	31, 113	--------	12, 492	38, 933	82, 538
7,000/7,999	7, 824	--------	7, 984	37, 940	53, 748
8,000/8,999	25, 100	--------	8, 028	8, 133	41, 261
9,000/9,999	9, 323	--------	--------	9, 925	19, 248
10,000 and over	49, 776	--------	--------	83, 815	133, 591
Total	148, 741	2, 413	34, 451	217, 189	402, 794
Breakdown by types of fuel					
Diesel	94, 109	834	34, 058	112, 305	241, 306
Oil	53, 717	1, 099	--------	82, 787	137, 603
Coal	915	480	393	22, 097	23, 885

Annex R. Breakdown of German-owned and controlled tonnage located south of Dover as of 30 Sept. 1943

[Gross registered tons]

Size (grt)	Controlled, French pass./cargo	Owned, German pass./cargo	Total pass./cargo	Controlled, French tankers	Owned, German tankers	Total tankers
100/499	66, 177	978	67, 155	1, 846	--------	1, 846
500/999	16, 332	6, 089	22, 421	1, 651	--------	1, 651
1,000/1,999	23, 593	7, 857	31, 450	3, 593	--------	3, 593
2,000/2,999	12, 084	2, 844	14, 928	7, 606	--------	7, 606
3,000/3,999	33, 110	3, 094	36, 204	--------	3, 371	3, 371
4,000/4,999	13, 383	8, 590	21, 973	--------	--------	--------
5,000/5,999	22, 243	5, 567	27, 810	--------	17, 083	17, 083
6,000/6,999	6, 300	37, 979	44, 279	--------	--------	--------
7,000/7,999	7, 110	30, 065	37, 175	--------	--------	--------
8,000/8,999	8, 150	8, 417	16, 567	--------	8, 050	8, 050
9,000/9,999	--------	9, 289	9, 289	9, 153	--------	9, 153
10,000 and over	18, 435	--------	18, 435	28, 020	31, 346	59, 366
Total	226, 917	120, 769	347, 686	51, 869	59, 850	111, 719
Breakdown by type of fuel						
Diesel	30, 033	67, 650	97, 683	39, 111	39, 396	78, 507
Oil	65, 499	17, 064	82, 563	12, 758	20, 454	33, 212
Coal	131, 385	36, 055	167, 440	--------	--------	--------

Annex S. Principal German Shipyards

Yard and engine works	Facilities (slip lengths, etc.)	Classes built: (*a*) naval, (*b*) mercantile.
BREMEN		
Atlaswerke A. C.: Workshops for ships' auxiliary machinery, propellers, etc.).	3 broadside slips (440′ x 90′ in all). 1,500 employees (1938).	(*a*) 600-ton minesweepers, escort vessels. (*b*) Steamers up to 1,000 tons, tugs, lighters, pontoons.
Deschimag (Deutsche Schiff-u. Maschinenbau A. G.) (Well-equipped yard with large engine shops).	8 slips (300′/750′) 2 broadside slips (600′). 3 floating docks (up to 17,500 tons). 1 graving dock being built. 15,000 employees.	(*a*) Destroyers up to 2,400 tons; U-boats of 740 and 1,200 tons; cruisers up to 10,000 tons. (*b*) Merchant ships up to 50,000 tons ("Bremen" built in 1929).
BREMERHAVEN		
Deschimag (Seebeck)	2 slips (260′) 4 graving docks (223′/522′ length).	(*a*) U-boats of 740 tons. (*b*) Merchant ships up to 240 feet; trawlers.
Norddeutsche Werft	2 slips (365′/450′) 2 broadside slips. 1 patent slip.	(*a*) 600-ton minesweepers, escort vessels. (*b*) Merchant ships up to 7,000 tons.
Unterweser A. G. (Have extensive machine shops).	1 slip (200′)	(*a*) 600-ton minesweepers and escort vessels. (*b*) Merchant ships and trawlers.

Annex S. Principal German Shipyards—Continued

Yard and engine works	Facilities (slip lengths, etc.)	Classes built: (*a*) naval, (*b*) mercantile.
DANZIG		
Danziger Werft (With large machine shops for engines, boilers, steering gear, propellers, etc.).	3 slips (up to 530') 4 floating docks (1,400/16,000 tons). 3 pontoons. 4,000/5,000 employees (1942).	(*a*) 500-ton U-boats. (*b*) Large merchant vessels and tankers, trawlers.
F. Schichau G. m. b. H.	5 slips (510'/630') 3 floating docks (1,000/2,300 tons). 5,000 employees (1941).	(*a*) 500-ton U-boats (cruisers and other warships in last war). (*b*) Large merchant vessels, including tankers, up to 34,000 tons.
ELBING		
F. Schichau G. m. b. H. (with large machine shops, foundry, etc., for engines and marine castings, etc.).	6 slips (320'/380') 1 floating dock (325'). 5,000 employees (1942).	(*a*) 1,200-ton destroyers, 600-ton torpedo boats. (*b*) Merchant ships up to 4,000 tons, coastal river craft.
EMDEN		
Nordsee-Werke	3 slips (525'/550') 1 floating dock (5,000 tons). 2,500 employees (1942).	(*a*) 500-ton U-boats. (*b*) Merchant ships up to 12,000 tons, pontoons, caissons, etc.
FLENSBURG		
Flensburger Schiffsbau	5 slips (400'/700') 3 floating docks (145'/300'). 1,700 employees (1937).	(*a*) 500-ton U-boats. (*b*) Medium-sized merchant ships up to 9,000 tons.
HAMBURG		
Blohm u. Voss. K. G. (with workshops for prefabricating material, engine shops, etc.).	8 slips (250'/926') *7 floating docks (4,700/46,000 tons) (1,056'+185). 15,000 employees (1942).	(*a*) Battleships, cruisers, destroyers, torpedoboats, U-boats. (*b*) Largest types of merchant and passenger ships.
Deutsche Werft (Finkenwärder) (Also produces ships' equipment).	6 slips (up to 750 feet) 1 floating dock (250'). 5,000 employees (1941).	(*a*) 740-ton U-boats. (*b*) Large merchant ships, tankers up to 15,000 tons.
Deutsche Werft (Reiherstieg).	2 slips (250'/400') 4 floating docks (4,500/13,300 tons). 3,000 employees (1941).	(*a*) 600-ton minesweepers, escort vessels, tank landing craft. (*b*) Merchant ships up to 10,000 tons, and tankers.
Howaldts Werke (Has large machine shops, including M. A. R. engine shops).	3 slips (650'/825') 4 floating docks (2,000/17,500 tons). 6,000 employees (1941).	(*a*) 500-ton U-boats. (*b*) Merchant ships, formerly large liners.
Norder Werft	4 slips (175'/250') 3 patent slips (25/150 tons). 1 floating dock (1,000 tons). 700 employees (1939).	(*a*) Aircraft salvage vessels. (*b*) Merchant vessels and tankers, fishing vessels.

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*Three docks sunk in July 1943.

Annex S. Principal German Shipyards—Continued

Yard and engine works	Facilities (slip lengths, etc.)	Classes built: (*a*) naval, (*b*) mercantile.
HAMBURG—continued		
H. C. Stulcken Sohn	4 slips (280′/320′) 4 floating docks (2,100/5,700 tons). 1,500 employees.	(*a*) 600-ton minesweepers. (*b*) Small freighters, tankers, fishing vessels.
KIEL		
Friedrich Krupp Germania Werft (has first-class engine shops; Diesels, boilers, turbines, propellers are made).	4 slips (540′/700′) 4 covered slips (360′/540′). 4 floating docks (130′ and 377′). 10,000/12,000 employees (1943).	(*a*) Cruisers, destroyers, U-boats of 500, 740, and 1,600 tons. (*b*) Merchant ships.
Kriegsmarinewerft (formerly Howaldts Werke). (Has large machine shops and foundry.)	6 slips (350′/480′) 9 floating docks (300′/530′). 6,000 employees (1941).	(*a*) 500-ton U-boats, U-boat depot ships. (*b*) Formerly large merchant ships and tankers.
Deutsche Werke Kiel A. G. (have Diesel, steam and gas engine shops and boiler shop).	3 slips (600′/1,000′) 6 graving docks (304′/750′ length). 5 floating docks. 5 pontoon docks. 13,000 employees (1941).	(*a*) U-boats of 250 and 500 tons; cruisers, aircraft carrier. (*b*) None.
KÖNIGSBERG		
F. Schichau G. m. b H.	3 slips (360′/430′) 5 floating docks (250′/390′) (400/3,500 tons). 1,000 employees (1941). 1 patent slip (250 tons).	(*a*) Aircraft tenders and auxiliary naval vessels. (*b*) Rivercraft up to 1,300 tons.
LÜBECK		
Lübecker Flenderwerke (has big structural steel and bridging department).	5 slips (460′/560′) 3 floating docks (310′/530′). 2,500 employees (1941).	(*a*) 500-ton U-boats, 600-ton minesweepers. (*b*) Merchant ships up to 5,000 tons, floating docks, locks, pontoons.
Lübecker Maschinenbau (has shops for excavators, machinery, etc.).	3 slips (200′/280′) 2,800 employees (1938).	(*a*) 600-ton minesweepers, escort vessels. (*b*) Merchant vessels up to 3,000 tons, dredgers, floating cranes, tugs.
MANNHEIM		
Schiffs-und Maschinenbau A. G.	680 employees (1941)	(*a*) Water carriers (105′) and tank landing craft. (*b*) Tugs.
RENDSBURG		
Merft Nobiskrug	3 slips (about 280′) 3 patent slips (600/800 tons). 500 employees (1941).	(*a*) Escort vessels, gun boats. (*b*) Small merchant ships, floating docks.

Annex S. Principal German Shipyards—Continued

Yard and engine works	Facilities (slip lengths, etc.)	Classes built: (*a*) naval, (*b*) mercantile.
ROSTOCK		
Neptun A. G. Schiffswerft und Maschinenfabrik.	4 slips (250′/600′) 2,000 employees (1941). 2 floating docks (310′ and 400′).	(*a*) 600-ton minesweepers, escort vessels, 500-ton U-boats, M. T. B. depot. (*b*) Merchant ships up to 4,000 tons.
STETTIN		
Stettiner Oderwerke	4 slips (460′/580′) 6 floating docks (700/3,000 tons). 2,800 employees (1939) 6 pontoon docks.	(*a*) 600-ton minesweepers, escort vessels, 500-ton U-boats. (*b*) Merchant ships up to 4,500 tons, icebreakers.
Stettiner Vulkan	11 slips (90′/680′) 1,000 employees (1941). 2 floating docks (150′ and 320′).	(*a*) 500-ton U-boats, tank landing craft. (*b*) Merchant ships, icebreakers.
VEGESACK		
Bremer Vulkan	7 slips (580′) 6,000 employees (1941).	(*a*) 500-ton U-boats. (*b*) Merchant ships up to 17,000 tons.
WILHELMSHAVEN		
Marinewerft	2 slips (700′ and 800′) 6 graving docks (377′/631′ length). 10,000 employees (1941).	(*a*) Battleships, cruisers, 500-ton U-boats. (*b*) None except in 1922–23.

NOTE.—The number of employees includes those in the shipyard and workshops serving it, on new construction, repairs and maintenance.

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